INTERNATIONAL SEABED AUTHORITY **ISBA**

Assembly

Distr.
GENERAL

ISBA/A/9
19 July 1996

ORIGINAL: ENGLISH

Resumed second session
Kingston
5-16 August 1996

PROPOSED BUDGET FOR THE INTERNATIONAL SEABED AUTHORITY FOR 1997

Report of the Secretary-General

A. Introduction

1. It is recalled that pursuant to the decision of the Assembly of the International Seabed Authority at the third part of its first session, held at Kingston from 7 to 18 August 1995, pending the election of the Secretary-General of the Authority, the Secretary-General of the United Nations submitted to the United Nations General Assembly at its fiftieth session, on behalf of the Authority, a draft budget covering the administrative expenses of the Secretariat of the Authority and the conference-servicing costs of the Authority for 1996.

2. It is also recalled that by its resolution 48/263 of 28 July 1994, the General Assembly of the United Nations decided to fund the administrative expenses of the Authority until the end of the year following the year during which the Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea entered into force. It will be further recalled that in its report contained in document A/48/964, the Fifth Committee, following its consideration of the statement of the Secretary-General (A/C.5/48/80) and the related report of the Advisory Committee on Administrative and Budgetary Questions (A/48/7/Add.16) informed the General Assembly that the projected resource requirements for the Authority for the period 1994-1999 would be $25,438,500 (see also the table contained in A/48/7/Add.16). It is to be added that the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea emphasized that for the first year of its operation (which eventually was 1996), the budget of the Authority "was premised on the assumption that the activities of the Authority [in that period] would relate in large measure to the establishment and internal

administration of the Authority". The Preparatory Commission added that "in the preparation of a draft budget for [1997], the Secretary-General of the Authority would need to consider the substantive functions of the Authority in relation to the anticipated level of activities in the Area". (LOS/PCN/L.115/Rev.1, para. 35 - the dates in the above have been modified in view of the unanticipated delay in the election of the Council of the Authority.)

3. On the basis of the above, the amount of $2,627,100 was authorized by the General Assembly of the United Nations to meet the administrative expenses of the Secretariat ($1,308,200) and conference-servicing expenses ($1,318,900) of the Authority for 1996. The amount authorized for the Secretariat provided $643,600 for 20 posts (1 S-G, 1 D-2, 2 P-5, 2 P-2 and 14 General Service) and $664,800 for ancillary requirements. The year 1997 will witness the initiation of the substantive work programme of the Authority. It should be noted that the total estimated requirements for 1997 contained in the present report in the amount of $5,402,000 is $688,000 less than the estimated amount of $6,090,000 contained in document A/48/7/Add.16. Bearing in mind the requirements of the substantive work programme, which is of a highly technical nature, it is proposed that 25 posts at the Professional level and above (1 S-G, 2 D-1, 5 P-5, 4 P-4, 7 P-3 and 6 P-2) and 29 posts at the General Service level would be required in 1997.

4. It is to be added that the Implementing Agreement is due to enter into force on 28 July 1996. Following the provisions of the above-mentioned General Assembly resolution 48/263, the budget of the Authority for 1997 is to be funded from the budget of the United Nations. After it has been considered by the Council and the Assembly of the Authority, the proposed budget for 1997 presented herein will be forwarded to the Secretary-General of the United Nations.

5. In preparing the proposed budget for 1997, the Secretary-General carried out a careful and thorough examination of the functions of the Secretariat emanating from the functions of the Authority specified in Part XI of the Convention and the Implementing Agreement, in particular as laid down in paragraph 5 of section 1 of the annex to the Implementing Agreement. It would be recalled that in accordance with the provisions of paragraph 1 of section 2 of the annex to the Implementing Agreement, the Secretariat of the Authority is also expected to perform the functions of the Enterprise until it begins to operate independently of the Secretariat. In the present report, the programme of work for 1997 has been designed bearing in mind the current and anticipated level of activities in the Area and following an evolutionary approach; the resource requirements have been estimated so as to discharge the responsibilities in the most cost-effective manner.

B. Organization of the Secretariat, its programme of work for 1997 and resource requirements

Functions of the Secretariat of the Authority

6. Part XI of the Convention and the Implementing Agreement clearly define the powers and functions of the Authority. According to section 1, paragraph 1, of the annex to the Implementing Agreement,

> "The International Seabed Authority (hereinafter referred to as 'the Authority') is the organization through which States Parties to the Convention shall, in accordance with the regime for the Area established in Part XI and this Agreement, organize and control activities in the Area, particularly with a view to administering the resources of the Area. The powers and functions of the Authority shall be those expressly conferred upon it by the Convention. The Authority shall have such incidental powers, consistent with the Convention, as are implicit in, and necessary for, the exercise of those powers and functions with respect to activities in the Area."

The Agreement, in section 1, paragraph 5, of the annex, specifies a number of functions that the Authority shall concentrate on between the entry into force of the Convention and the approval of the first plan of work for exploitation. It is evident from an analysis of these functions that one of the broad areas that the Authority has to focus on is rule making and implementation, and that another broad area is monitoring and studying resource and environment-related matters.

7. The Secretariat is one of the three principal organs of the Authority, the others being the Assembly and the Council. The Secretariat is to provide services to the Assembly and the Council as well as the Legal and Technical Commission and the Finance Committee. In accordance with article 160, paragraph 1, of the Convention, the Assembly has the power to establish general policies in conformity with the relevant provisions contained in Part XI of the Convention and the Implementing Agreement on any question or matter within the competence of the Authority. As the executive organ of the Authority and in accordance with article 162, paragraph 1, of the Convention, the Council has the power to establish, in conformity with the Convention, the Implementing Agreement and the general policies established by the Assembly, the specific policies to be pursued by the Authority on any question or matter within the competence of the Authority. The Council supervises and coordinates the implementation of the provisions of Part XI of the Convention and the Implementing Agreement.

8. To assist the Council on matters relating to the exploration for, exploitation and processing of polymetallic nodules, as well as on matters relating to oceanology, protection of the marine environment or economic or legal matters relating to ocean mining and related fields, the Legal and Technical Commission, inter alia, makes recommendations on a variety of matters to the Council for its consideration, approval or adoption. These recommendations include those relating to the approval of plans of work for activities in the Area, the protection of the marine environment, the

establishment of an environmental monitoring programme for the Authority and the proceedings on behalf of the Authority that may be instituted before the Seabed Disputes Chamber. The Legal and Technical Commission is also required to assist the Council through the formulation of rules, regulations and procedures on prospecting, exploration and exploitation in the Area. It is to be added that according to section 1, paragraph 4, of the annex to the Implementing Agreement, the functions of the Economic Planning Commission shall be performed by the Legal and Technical Commission until such time as the Council decides otherwise or until the approval of the first plan of work for exploitation.

9. To assist the Assembly or the Council on all matters having a financial and budgetary implication, the Finance Committee is required to make recommendations. In this context, the Finance Committee has to make recommendations on, inter alia, draft financial rules, regulations and procedures of the organs of the Authority, the financial management and internal financial administration of the Authority, the proposed annual budget prepared by the Secretary-General, the financial aspects of the implementation of the programme of work of the Secretariat and the financial obligations of States Parties to the Convention and the Implementing Agreement.

10. The Secretariat provides the services that facilitate the deliberations of the representatives of States Parties in the Assembly, the Council, the Legal and Technical Commission and the Finance Committee, and carries out that part of the work programme of those organs and bodies that are assigned to it. By the nature of its work, technical staff members are a team who bring their expertise into the integrated approach called for in relation to deep seabed mining activities. The work of the Secretariat is carried out by the staff of the Authority who are appointed by the Secretary-General.

11. With regard to the functions of the Authority as identified in the Implementing Agreement, the broad responsibilities of the Secretariat are as follows:

(a) Producing reports and other documents containing information, analysis, historical background, research findings, policy suggestions and recommendations etc., that facilitate the deliberations and decision-making by the organs and bodies of the Authority;

(b) Providing Secretariat services to the organs and bodies (e.g., providing secretaries of the organs and bodies; providing information and advice to the bureaux of the organs and bodies and to delegations; and assisting in planning the work of the sessions, in the conduct of the proceedings and in drafting reports);

(c) Providing meeting services (e.g., interpretation, verbatim reporting and précis-writing services) to the organs and bodies, in accordance with the decisions of the Assembly or the Council;

(d) Providing editorial, translation and documents reproduction services for the issuance of the documents of the Authority in the different working languages, in accordance with the policies adopted by the Assembly;

(e) Conducting studies and providing information that answer to the priority needs of members of the Authority;

(f) Producing publications, information bulletins and analytical work in accordance with the programme of work;

(g) Organizing conferences, expert group meetings, seminars and workshops on topics of concern to the Authority;

(h) Arranging for dissemination to the public of information on the Authority's activities and decisions;

(i) Providing the programme planning, financial, personnel, legal, management, administrative and general services that are essential for the rational selection of work items and allocating resources among them and for the effective, economic and efficient performance of the services and functions of the Secretariat, within the legal framework of regulations, rules and policies adopted by the Assembly.

Requisite organizational units of the Secretariat

12. To fulfil the above responsibilities the Secretariat of the Authority will need to be comprised of the following organizational units:

(a) The Office of the Secretary-General;

(b) The Office of Legal Services and Implementation Affairs;

(c) The Office of Resources and Environmental Monitoring;

(d) The Office of Administration and Management.

The programme of work of these four organizational units in 1997 and the post requirements to implement the programme of work are set forth below.

The Office of the Secretary-General

13. The broad functions of the Office of the Secretary-General are as follows:

(a) Assist the Secretary-General in the establishment of general policy and in the exercise of executive direction in relation to the work of the Authority;

(b) Assist the Secretary-General in his relations with the organs and bodies of the Authority;

(c) Assist the Secretary-General in supervising and coordinating the work of the Authority, pursuant to his decisions and relevant directives of the organs and bodies of the Authority relating to organization and administration of the activities in the Area;

(d) Assist the Secretary-General in his contacts with Governments, delegations, non-governmental organizations, the press and the public;

(e) Prepare draft statements for the Secretary-General, and prepare, or coordinate the preparation of briefing material for his personal attention;

(f) Deal with protocol, liaison and representation, organize official ceremonies and similar functions and make arrangements for Permanent Representatives to present credentials to the Secretary-General;

(g) Maintain up-to-date lists of Permanent Representatives and other representatives and issue official identification passes to accredited representatives;

(h) Notify the Host Country of the arrivals and departures of members of the Permanent Missions accredited to the Authority as required by the Host Country Agreement;

(i) Coordinate with the Office of Conference and Support Services of the Department of Administration and Management of the United Nations in New York on the conference-servicing requirements of the Authority during its biannual schedule of meetings;

(j) Ensure the timely preparation, translation, printing and distribution of official documentation.

14. In addition to the post of the Secretary-General, it is proposed to provide this Office with seven posts: one P-5 for a Special Assistant to the Secretary-General, one P-3 for a Protocol and External Relations Officer, one P-2 for a Conference Coordinator, one P-2 for a Personal/Research Assistant to the Secretary-General (having multilingual and communications skills) and three General Service posts.

Summary of post requirements: Office of the Secretary-General

	Established posts	
	1996	1997
Professional category and above		
S-G	1	1
D-2	1	
P-5		1
P-3		1
P-2		2
Total	2	5
General Service category		
LL	4	3
Total	4	3
Grand total	6	8

The Office of Legal Services and Implementation Affairs

15. A number of rule making and implementation functions are to be carried out by the Authority. The Authority is entrusted with the responsibility of processing applications for approval of plans of work for exploration in accordance with Part XI of the Convention and the Implementing Agreement. With regard to this function it is important to note that it comprises the formulation and adoption of rules and regulations on the content of an application for approval of a plan of work for exploration and the procedures relating thereto, the internal procedures for the Council and the Legal and Technical Commission regarding the consideration of such applications and decision-making, the scope and means of the verification by the Authority of compliance by the contractors and the terms of contract.

16. In this context, four other functions that the Authority is required to concentrate on under the terms of the Implementing Agreement which are directly related to the processing of applications for approval of plans of work for exploration, have to be taken into account. These are:

(a) Adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;

(b) Monitoring of compliance with plans of work for exploration approved in the form of contracts;

(c) Promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;

(d) Acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment.

17. Taken together with the provision that the duration of a plan of work for exploration shall be 15 years (para. 9 of sect. 1 of the annex to the Implementing Agreement) and the requirement of section 1, paragraph 7, of the annex to the Implementing Agreement, which requires that: "An application for approval of a plan of work shall be accompanied by an assessment of the potential environmental impact of the proposed activities and by a description of a programme for oceanographic and baseline studies in accordance with the rules, regulations and procedures adopted by the Authority", the four additional functions noted above, provide a long-term basis for the Authority to adopt regulations that take advantage of current knowledge of the environmental impact of activities in the Area, and through the approved plans of work for exploration and other mechanisms such as the promotion and encouragement of the conduct of marine scientific research with respect to the environmental impact of activities in the Area, to establish measures to protect the environment and monitor the effectiveness of these safeguards in particular for subsequent exploitation activities in the Area. In any event, the adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment in consonance with the scope and means of the verification by the Authority of compliance with measures to protect the environment will be required before plans of work for exploration can be approved.

18. The Implementing Agreement amends Part XI in a number of ways that directly affect the approval of plans of work for exploration both in respect of substance and timing. For example, in accordance with section 1, paragraph 6 (a) (ii), of its annex, registered pioneer investors are to request approval of plans of work for exploration within 36 months of the entry into force of the Convention (i.e., by 15 November 1997).

19. With regard to substance, the Agreement also affects the content of the draft regulations considered by the Preparatory Commission. As an example, in relation to a registered pioneer investor, section 1, paragraph 6 (a) (ii), of the annex to the Implementing Agreement states, inter alia, that:

> "The plan of work for exploration shall consist of documents, reports and other data submitted to the Preparatory Commission both before and after registration and shall be accompanied by a certificate of compliance, consisting of a factual report describing the status of fulfilment of obligations under the pioneer investor regime, issued by the Preparatory Commission in accordance with resolution II, paragraph 11 (a)."

20. These considerations require that a thorough review of the draft regulations prepared by the Preparatory Commission be conducted together with an assessment of existing knowledge of the environmental impact of activities in the Area, with a view to reformulating them in accordance with the Implementing Agreement and its annex as well as any further knowledge obtained through research and development connected with the impact of activities in the Area on the marine environment. As a result, it would be beneficial if the adoption of the rules, regulations and procedures for the matters discussed in paragraph 15 above is completed by the spring session of the Authority in 1997, in order to provide the applicants time to submit their applications.

21. In the context of the above work to be carried out, the Office of Legal Services and Implementation Affairs will be responsible for the following functions of the Secretariat during 1997:

(a) Rules, regulations and procedures for the conduct of activities in the Area

(i) Rules, regulations and procedures for processing applications for approval of plans of work for exploration:

a. Finalize rules, regulations and procedures, including, inter alia:

i. General provisions;

ii. Provisions with regard to content of applications;

iii. Provisions with regard to plans of work, including issues related to the protection and preservation of the marine environment; accommodation of activities in the Area and the marine environment; labour, health and safety standards; and fees;

iv. Provisions with regard to processing of applications;

v. Provisions with regard to consideration of applications and approval of plans of work;

b. Assist the Legal and Technical Commission and the Council in the adoption and application of the rules, regulations and procedures;

c. As requested, assist pioneer investors and potential applicants in submission of applications in accordance with the rules, regulations and procedures;

d. Formulate terms of contracts and prepare contracts;

e. Assist the Legal and Technical Commission and the Council in the process of the approval of contracts;

f. Develop mechanisms to monitor compliance with the rules, regulations and procedures and monitor such compliance, and assist the Legal and Technical Commission and the Council in their consideration of issues of compliance;

g. Carry out all operational and administrative actions in relation to receipt, recording, and processing of applications, preparation and execution of contracts, and notification to applicants and member States;

(ii) Rules, regulations and procedures for the conduct of activities in the Area as they progress:

a. Jointly with the Office of Resources and Environmental Monitoring, monitor the status of activities in the Area and apprise the Legal and Technical Commission and the Council of the situation;

b. Jointly with the Office of Resources and Environmental Monitoring, assist the Legal and Technical Commission and the Council in reviewing the situation and determining the need for rules, regulations and procedures;

c. As required, prepare the rules, regulations and procedures;

d. Assist the Legal and Technical Commission and the Council in their consideration and adoption of the rules, regulations and procedures and in their application of the rules, regulations and procedures;

e. Develop mechanisms to monitor compliance with the rules, regulations and procedures and monitor such compliance, and assist the Legal and Technical Commission and the Council in their consideration of issues of compliance;

f. Carry out all operational and administrative actions in relation to the application of the rules, regulations and procedures;

(b) Headquarters Agreement, Privileges and Immunities Agreement and Relationship Agreements:

(i) Headquarters Agreement with the Government of Jamaica:

a. Assist the Secretary-General to negotiate, finalize and carry out periodic review;

b. Assist the Council and the Assembly in its consideration and adoption of the Agreement and its revisions, if necessary;

(ii) Agreement on the Privileges and Immunities of the Authority:

a. Assist the Secretary-General to negotiate, finalize and carry out periodic review;

b. Assist the Assembly in its consideration and adoption of the Agreement;

(iii) Relationship Agreements between the Authority and the United Nations, and between the Authority and other organizations:

a. Assist the Secretary-General to negotiate and finalize the Relationship Agreement between the Authority and the United Nations, and carry out periodic review;

b. Assist the Council and Assembly in their consideration and adoption of the Relationship Agreement and its implementation;

c. As required, prepare relationship agreements between the Authority and other organizations;

d. Assist the Council and the Assembly in their consideration and adoption of such relationship agreements;

(c) General legal services:

(i) Serve as a legal service for the Secretariat and, in this capacity, advise the Secretary-General on questions of international and national, public, private and administrative law, including, inter alia:

a. Legal aspects of programmes and activities in which the Authority is engaged;

b. Commercial matters involving the administrative and operational activities of the Authority;

c. Financial, personnel and pension matters of the Authority, including the interpretation and application of the Financial Regulations and Rules, the Staff Regulations and Rules, the Regulations and Rules of the Staff Pension Fund and administrative issuances;

(ii) Deal with questions concerning privileges and immunities of the Authority and the Headquarters Agreement with Jamaica;

(iii) Deal with questions relating to credentials of Permanent Representatives to the Authority and representatives to the Authority's organs and bodies as well as conferences;

(iv) Maintain liaison on legal matters between the Authority and the United Nations, organizations of the United Nations system and other organizations;

(v) Maintain liaison with the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs of the United Nations and keep abreast of developments in the law of the sea;

(vi) Maintain liaison on legal matters with the Commission on the Limits of the Continental Shelf and keep abreast of the proceedings in the Commission;

(vii) Maintain liaison with the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea;

(viii) Represent the Secretary-General in judicial proceedings, negotiations or other procedures for the settlement of disputes of a legal character;

(d) Certification of legal instruments issued by the Authority:

Assist the Secretary-General in certifying legal instruments issued by the Authority;

(e) Substantive Secretariat services to the organs and bodies of the Authority:

Jointly with the Office of Resources and Environmental Monitoring, provide integrated substantive services to the organs and bodies of the Authority as detailed in paragraph 17:

(i) Assembly;

(ii) Council;

(iii) Legal and Technical Commission.

22. In order to carry-out the above programme of work, nine posts (one D-1, one P-5, one P-4, two P-3 and four General Service) are proposed for the Office of Legal Services and Implementation Affairs.

Summary of post requirements: Office of Legal Services and Implementation Affairs

	Established posts	
	1996	1997
Professional category and above		
D-1		1
P-5	1	1
P-4		1
P-3		2
P-2	1	
Total	2	5
General Service category		
LL	2	4
Total	2	4
Grand total	4	9

Office of Resources and Environmental Monitoring

23. A number of resource and environment-related functions are to be carried out by the Authority. In relation to "administering the resources of the Area", in view of the interest of member States in conservation and rational management in the development of the resources of the Area, the Authority needs an effective and sustained effort to collect, manage and distribute information on the Area in order, inter alia, to provide an adequate understanding of the environmental impact likely to be caused by deep seabed mining, estimate the magnitude of the polymetallic nodule resources in the world's oceans, in particular the potentially recoverable resources in various ocean areas, and in accordance with article 143, paragraph 2, of the Convention, promote and encourage marine scientific research to foster the objective of member States to increase the global reserves of the metals available in polymetallic nodules. In this context, the Implementing Agreement imposes two immediate responsibilities on the Authority: (a) assessment of available data relating to prospecting and exploration (Authority) and evaluation of information and data relating to areas reserved for the Authority (Enterprise); and (b) adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment and acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment.

24. Recent years have seen considerable activity to obtain general survey data as well as detailed information concerning deep seabed areas expected to contain

mineral deposits. In addition to polymetallic nodule resources that the Convention identifies as the priority mineral resources for which rules, regulations and procedures are to be adopted and approved by the Assembly, other known mineral resources drawing considerable interest are cobalt-rich manganese oxide crusts on bedrock, polymetallic sulphide deposits along ocean-floor spreading centres and red clay deposits. With respect to these and other minerals to be found in the Area, the Convention stipulates that rules, regulations and procedures for the exploration and exploitation of such resources shall be adopted within three years from the date of a request to the Authority by any of its members for the adoption of such rules in respect of such resource. With regard to polymetallic nodules, activities have resulted in basic information that has made it possible to indicate the resource potential in future mining areas. The characteristics of these selected areas are also important for the design of mining equipment and for concept selection.

25. The considerations given above provide the basis for the work that the Authority has to carry out to continually obtain an assessment of the polymetallic nodule resources of the Area. With the establishment of the Authority, a concerted effort must be made to enable it to become the central data repository of polymetallic nodule resources of the Area. Such a step would also facilitate the dissemination of timely information to members of the Authority.

26. The resource assessment aspect of the work of the Authority will comprise the following components: (a) global recovering of data that are available in the public domain on resources of the Area, in particular, polymetallic nodules with a view to estimating their economic potential; (b) regional recovery of data available on polymetallic nodule resources in the primary areas (Clarion-Clipperton Zone, South Pacific Ocean and the Central Indian Ocean Basin) with a view to monitoring trends in the development of technologies for mining nodule resources as well as encouraging marine scientific research for the conversion of potential ore bodies located in these areas to reserves; and (c) site specific information on the conversion process including the results of measures taken during the exploration phase to protect the environment and to monitor the effectiveness of environmental safeguards during the subsequent exploitation phase, and resource conservation issues in connection with mining (pattern mining as opposed to mining of the richest zones of a mine site first) and the issue of the retention of manganese tailings in a three-metal operation. For the purposes of the administrative functions of the Authority, it will need to formulate regulations that deal with: the harmful impacts of activities in the Area on the environment; a control system to ensure that set standards are complied with; and the promotion of compliance with standards through sanctions and compulsory means (enforcement). In order to establish the material content of the standards, it must be clarified whether and to what extent harmful environmental effects from the activity in question can be accepted which in turn is based on knowledge of the effect of the activity on the environment. It is to be added that in relation to the resources in the Area, the Agreement entrusts further responsibilities on the Authority of monitoring and review of trends and developments relating to deep seabed mining activities, including regular analysis of world metal market conditions and metal prices, trends and prospects; and of study of the potential impact of mineral production from the Area on the economies of developing land-based producers of those minerals which

are likely to be most seriously affected, with a view to minimizing their difficulties and assisting them in their economic adjustment, taking into account the work done in this regard by the Preparatory Commission.

27. The Implementing Agreement also entrusts the Authority with the responsibilities of the implementation of the decisions of the Preparatory Commission relating to the registered pioneer investors and their certifying States, including their rights and obligations, in accordance with article 308, paragraph 5, of the Convention and resolution II, paragraph 13.

28. Pursuant to the decisions of the General Committee of the Preparatory Commission to register the pioneer investors, a series of understandings on the fulfilment of obligations by the registered pioneer investors and their certifying States were subsequently adopted. The understandings created several new obligations as a quid pro quo for the waiving of certain obligations required under resolution II. The obligations of the registered pioneer investors fall under the following headings: (a) Periodic expenditures; (b) Reporting by the certifying State; (c) Provision of data; (d) Relinquishment; (e) Exploration plan for reserved areas in the central region of the north-east Pacific; and (f) Training.

29. Within the framework of the above work to be carried out, the Office of Resources and Environmental Monitoring will be responsible for the following functions of the Secretariat, as and when required in 1997:

(a) Development and maintenance of the central data repository of resources of the Area, in particular, polymetallic nodule resources:

(i) Establish cooperative mechanisms with global, regional and national organizations involved in research and data collection related to resources of the Area, in particular, polymetallic nodule resources;

(ii) Establish cooperative mechanisms with pioneer investors and potential applicants;

(iii) Assemble information on the available types of data on polymetallic nodule resources of the Area including the sources, formats and cost of obtaining such data;

(iv) Establish cooperative mechanisms with global, regional and national organizations involved in marine geological and geophysical data collection, in particular, data related to the bathymetry, macro- and microtopographical data of the Area;

(v) Assemble information on the sources, formats and costs of obtaining the publicly available data on the bathymetry and topography of the Area, in particular the primary areas of nodule deposition;

(vi) Establish methodologies for uniform and consistent data entry of bathymetric and geological data;

(vii) Expand existing polymetallic nodule database (POLYDAT) to include digitized data on the bathymetry, topography, environment and resource data of the Area as are available;

(viii) Disseminate periodically, and as required, information on polymetallic nodule resources, in custom-tailored forms, including graphical representations;

(ix) Disseminate periodically, and as required, bathymetric, topographical, environmental and geological information, integrated with polymetallic nodule resource information, in custom-tailored forms, including maps and charts;

(b) Prevention, reduction and control of pollution of the marine environment from activities in the Area:

(i) Establish cooperative mechanisms with global, regional and national organizations involved in marine environmental data collection;

(ii) In cooperation with organizations active in environmental research in the Area, determine the present status of knowledge for assessing and predicting the environmental impact of activities in the Area;

(iii) In cooperation with organizations active in environmental research in the Area and pioneer investors formulate a plan to assess the environmental effects of exploration and commercial recovery, identifying the main concerns and the elements to be included in the programme, including the natural diversity of the deep seabed biota, life histories of major organisms likely to be affected, etc.;

(iv) Assist the Legal and Technical Commission in the identification of the specific data and information to be submitted in the various reports of contractors (environmental impact statement, annual report, etc.), for establishing impact and preservation reference zones and to be specified in their contracts;

(v) Assist the Legal and Technical Commission in establishing a database that would allow the assessment and prediction of the environmental impact of activities in the Area;

(vi) Assist the Legal and Technical Commission in the establishment of a monitoring programme to observe, measure, evaluate and analyse by recognized scientific methods, on a regular basis, the risks or effects of pollution resulting from activities in the Area;

(vii) Jointly with the Office of Legal Services and Implementation Affairs, assist the Legal and Technical Commission in devising a control system (including the establishment of standards) to ensure that the rules and regulations with regard to the protection and preservation of the marine environment are complied with;

(c) Science and technology relevant to activities in the Area:

(i) Acquisition of scientific knowledge:

a. Monitor marine scientific studies relevant to activities in the Area;

b. Assemble findings of such studies in an integrated framework;

c. Develop strategies for promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area, with particular emphasis on research related to the environmental impact of activities in the Area and in support of the Authority's Monitoring Programme, and implement such strategies;

d. Collect results of research and analysis from marine scientific investigations carried out pursuant to such strategies;

e. Disseminate such results, as required;

(ii) Development of a technology database:

a. Establish an effective mechanism for monitoring developments related to marine technology relevant to the activities in the Area, and monitor the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;

b. Design a technology database with a view to assembling information on available marine technology, in particular technology relating to the protection and preservation of the marine environment and develop a technology database pursuant to the design;

c. Disseminate information on marine technology relevant to activities in the Area, as required;

d. Maintain liaison with institutions, corporations and other entities concerned with development of relevant technology;

(d) Trends and developments relating to deep seabed mining activities including world metal market conditions, metal prices, trends and prospects:

(i) Deep seabed mining:

a. Establish an effective mechanism to monitor trends and developments relating to deep seabed mining activities, and jointly with the Office of Legal Services and Implementation Affairs, monitor such trends and developments;

b. Develop and maintain an information base incorporating information on such trends and developments, and as required, disseminate information from the information base;

c. Jointly with the Office of Legal Services and Implementation Affairs, assist the Legal and Technical Commission and the Council in their review of such developments;

(ii) World metal market conditions:

a. Establish an effective mechanism to monitor developments in world metal markets including prices, trends and prospects;

b. Update and expand the existing mineral database (MINDAT) on production, consumption, trade, prices, reserves and resources of the metals that might be extracted from deep seabed minerals as well as information on current land-based producers and exporters, in particular developing countries;

c. Monitor developments in world metal markets and as required, disseminate information on such developments;

(e) Inputs in the rules, regulations and procedures:

Provide economic, technical and scientific inputs in the preparation and application of and monitoring compliance with the rules, regulations and procedures for processing of applications for approval of plans of work for exploration, and for the conduct of activities in the Area as they progress;

(f) Substantive Secretariat services to the organs and bodies of the Authority:

Jointly with the Office of Legal Services and Implementation Affairs, provide integrated substantive services to the organs and bodies of the Authority as detailed in paragraph 17:

(i) Assembly;

(ii) Council;

(iii) Legal and Technical Commission;

(g) Implementation of the decisions of the Preparatory Commission relating to the Registered Pioneer Investors and their Certifying States:

(i) Training:

a. As recommended, continue the functions of the Preparatory Commission Training Panel with regard to:

i. Monitoring of the implementation of training programmes of the registered pioneer investors;

ii. Evaluation of the training received;

iii. Issuance of training certificates;

iv. Review and approval of training programmes of newly registered pioneer investors;

b. Follow-up on offers of training by Finland, the International Ocean Institute and Germany;

c. Make an inventory of training programmes in the field of deep seabed mining implemented by global, regional and national organizations;

d. Communicate with prospective Governments/organizations that might offer training;

e. Promote realization of benefits by members of the Authority, especially developing countries, from such training programmes;

(ii) Exploration plan for reserved areas in the central region of the north-east Pacific:

a. Assist the Legal and Technical Commission and the Council in their consideration of the status of exploration work in the reserved areas;

b. As necessary, monitor the implementation of Stage I of the exploration plan for reserved areas;

(iii) Other matters:

a. Jointly with the Office of Legal Services and Implementation Affairs, monitor the implementation of the decisions of the Preparatory Commission with regard to

i. Periodic expenditures;

ii. Reporting by certifying States;

iii. Provision of data; and

iv. Relinquishment;

b. As required, and jointly with the Office of Legal Services and Implementation Affairs, assist the Legal and Technical Commission and the Council in their consideration of the above matters;

(h) Enterprise:

Monitor, assess and evaluate data and information in the development of deep seabed mining from the perspective of the Enterprise and issue periodic reports thereon.

30. In order to carry out the above programme of work, 16 posts (1 D-1, 2 P-5, 3 P-4, 2 P-2 and 8 General Service) are proposed for the Office of Resources and Environmental Monitoring.

Summary of post requirements: Office of Resources and Environmental Monitoring

	Established posts	
	1996	1997
Professional category and above		
D-1		1
P-5		2
P-4		3
P-3		
P-2		2
Total	0	8
General Service category		
LL	1	8
Total	1	8
Grand total	1	16

The Office of Administration and Management

31. High priority is accorded to the establishment of an effective and coherent administrative and management office in the Organization with clear lines of responsibility and accountability. Accordingly, the Office of Administration and Management will comprise organizational units responsible for:

(a) Programme planning and budgeting;

(b) Accounts and treasury;

(c) Personnel recruitment and administration;

(d) General support services comprising procurement, transportation, management of buildings and grounds, and office automation;

(e) Security;

(f) Library services.

32. In 1997, the Office will continue to work towards the establishment of the required financial management and control mechanisms and will focus on the finalization of the Organization's financial and staff regulations and rules and other internal administrative policies and procedures. It will provide Secretariat services to the Finance Committee and, as required, will assist the Council and the Assembly in their consideration and adoption of the Organization's financial and staff regulations.

33. Under the overall direction and oversight by the Chief of Administration, the main functions and responsibilities of the organizational units mentioned in paragraph 31 above are described below:

(a) Programme planning and budgeting:

(i) Preparation of proposed programme budgets and related revised estimates and statements of programme budget implications;

(ii) Authorization of expenditures and staffing tables;

(iii) Review and monitoring of expenditures;

(iv) Review of compliance with staffing tables and maintenance of vacancy statistics;

(v) Development and maintenance of parameters for costing the programme budgets;

(vi) Servicing of intergovernmental bodies;

(b) Accounts and treasury:

(i) Assessment of contributions of member States and, as appropriate, assessment of contributions by non-member States for their participation in the activities of the Authority;

(ii) Processing of assessed and voluntary contributions and monitoring the status thereof as well as preparing monthly reports on status of contributions;

(iii) Administration of bank accounts and reconciliation of monthly bank statements;

(iv) Short-term investments: daily monitoring of interest rates; planning for monthly cash requirements and investing funds for periods up to one year;

(v) Cash management;

(vi) Receiving and recording all payments; effecting all disbursements and maintaining liaison with banks;

(vii) Processing of financial and accounting documents; recording the collection of monies and other receivables due to the Organization; production of financial statements and monthly allotment reports; recording and preparation of consolidated statements of income and expenditure; maintenance of accounts and preparation of reports;

(viii) Effecting payment of salaries and related allowances and other benefits to staff and consultants; processing of income tax reimbursements; preparation of reports and statements of earnings, including annual United Nations Joint Staff Pension Fund reports and schedules; processing payments to vendors and other contractors; and processing of travel claims;

(c) Personnel recruitment and administration:

(i) Recruitment of Professional staff subject to geographical distribution and recruitment of General Service staff; preparation of vacancy announcements and advertisements; interviewing candidates in cooperation with concerned Offices; presentation of recommendations for recruitment of candidates to the appointment and promotion bodies, as applicable; requesting releases and visas; and making arrangements for travel when appropriate;

(ii) Short-term recruitment of staff for conferences and for other requirements of short duration;

(iii) Recruitment of consultants and individual contractors;

(iv) Personnel administration of staff in accordance with applicable regulations and rules; initial offers of appointments and extensions; review of contractual status of staff; counselling on personnel problems, compliance with the code of conduct for international civil servants; identification of potential problems between management and staff and contributing to their resolution; contributing to the development and revision of personnel policies in the light of experience in their application;

(v) Determination of eligibility for benefits and allowances in accordance with applicable regulations and rules;

(vi) Coordination with other organizations of the common system on policies and procedures regarding salaries, pensions, allowances and other entitlements;

(d) General support services:

(i) Negotiation, preparation and administration of contracts for the procurement of supplies, equipment, contractual services, external printing and binding services; presentation of cases to the Contracts Committee, as applicable; development and maintenance of a computerized roster of vendors and completed purchase orders; and processing and expediting acquisitions, bids, purchase orders and invoices.

(ii) Processing of laissez-passer and visa applications, customs clearances and travel transactions for staff members of the Organization;

(iii) Arrangement of incoming and outgoing shipments of household goods and personal effects for staff members; monitoring of shipments by forwarders; customs clearances; filing and settlement of insurance claims; provision of stores and control services for expendable supplies; preparation, receiving and inspection of reports; management and operation of official vehicles; and provision of local transportation of mail and pouch items between the Secretariat of the Authority and other organizations;

(iv) Supervision of contractual arrangements for rented premises; property management for non-expendable equipment; information and reception services including handling telephone requests for information by the public, diplomatic mission personnel and staff; mail operations services; and provision of guidelines on space standards and development of plans for future requirements;

(v) Provision of an efficient, reliable and cost-effective computer and telecommunications operations and infrastructure; assisting offices in the development of electronic applications necessary to fulfil their programme of activities; providing an efficient and reliable internal and external electronic communications capability; and exploring new technologies and their applicability to the work of the Organization;

(e) Security:

Activities will focus on the security and safety of visiting dignitaries, delegates, staff members and visitors to the Secretariat and conference complex. The unit will coordinate with the relevant local authorities, with the local offices of other international organizations and with the common system Security Coordinator located at United Nations Headquarters in New York. The activities will include, inter alia:

(i) Inspection of premises, including elevators for safety and fire hazards; conducting safety training; coordination of fire drills; review of alteration plans to ensure that safety and fire requirements are met; drafting safety reports and recommendations; monitoring and inspection of fire and water alarms; practice evacuation of premises; and making recommendations on the acquisition of safety equipment;

(ii) Inspection of areas during bomb threats; responding to alarms and emergencies; and investigation of motor vehicle accidents, compensation cases, accidents involving visitors and staff members, illnesses involving visitors and damage to personal and the Organization's property;

(f) Library services:

(i) Continuation of the acquisition programme of specialized books and other reference materials relevant to the work of the Authority;

(ii) Provision of services to members of delegations, diplomatic missions, researchers, students and other interested individuals.

34. In order to carry out its programme of work, it is proposed to provide the Office of Administration and Management with 21 posts (1 P-5, 4 P-3, 2 P-2 and 14 General Service).

Summary of post requirements: Office of Administration and Management

	Established posts	
	1996	1997
Professional category and above		
P-5	1	1
P-3		4
P-2	1	2
Total	2	7
General Service category		
LL	7	14
Total	7	14
Grand total	9	21

Other resource requirements

35. In addition to requirements for posts and common staff costs ($2,253,700), non-posts resources in the estimated amount of $1,534,600 would also be required for the administrative expenses of the Secretariat. The amount of $1,400,000 would provide for the required conference-servicing costs and $213,700 would be for programme support provided by the United Nations. This latter amount represents 13 per cent of the estimates for salaries and allowances of staff at the Professional level and above whose payroll will be processed at United Nations Headquarters on an interim basis. Annex I presents a summary of the

post requirements in the four organizational units of the Secretariat of the Authority in 1997. Annex II presents a summary of the resource requirements of the Authority in 1997.

C. Action to be taken by the Assembly

36. The Assembly may wish to decide:

(a) To approve the programme of work and the estimated budgetary requirements, including 54 posts (1 S-G, 2 D-1, 5 P-5, 4 P-4, 7 P-3, 6 P-2 and 29 General Service) in the amount of $5,137,800 as proposed by the Secretary-General for 1997;

(b) To resolve, pursuant to the provisions of General Assembly resolution 48/263, that the above-mentioned budgetary requirements be provided from the regular budget of the United Nations;

(c) To request the Secretary-General of the Authority to request the Secretary-General of the United Nations to transmit this decision to the General Assembly of the United Nations.

ANNEX I

Organizational units of the Secretariat of the International Seabed Authority and post requirements in 1997

Secretary-General

Office of the Secretary-General

1 P-5
1 P-3
2 P-2
3 GS

- Protocol and external relations
- Conference coordination

Office of Administration and Management

1 P-5
4 P-3
2 P-2
14 GS

- Programme planning and budgeting
- Accounts and treasury
- Personnel recruitment and administration
- General services
- Security
- Library services
- Substantive secretariat to the Finance Committee

Office of Legal Services and Implementation Affairs

1 D-1
1 P-5
1 P-4
2 P-3
4 GS

- Rule making
  - Approval of plans of work
  - Conduct of activities as they progress
- Headquarters, privileges and immunities and relationship agreements
- General legal services
- Certification of legal instruments
- Substantive secretariat services to the organs of the Authority
  - Assembly
  - Council
  - Legal and Technical Commission

Office of Resources and Environmental Monitoring

1 D-1 - Coordinator of Programme and Interim Director-General of the Enterprise
1 P-5 - (Mining Engineer/Minerals Economist)
1 P-5 - (Marine Geologist)
1 P-4 - (Marine Biologist)
1 P-4 - (Oceanographer)
1 P-4 - (Systems Analyst)
2 P-2
8 GS

- Central data repository of the resources of the Area
- Prevention, reduction and control of pollution from activities in the Area
- Science and technology
- Trends and developments relating to deep seabed mining activities
- Inputs in rule making
- Implementation of the decisions of the Preparatory Commission
- Substantive secretariat services to the organs of the Authority
  - Assembly
  - Council
  - Legal and Technical Commission
- Activities relating to the Enterprise

Post requirements

SG	D-1	P-5	P-4	P-3	P-2	Total Professionals and above	Total General Service	Grand Total
1	2	5	4	7	6	25	29	54

ANNEX II

International Seabed Authority: summary of budgetary requirements for the period from 1 January to 31 December 1997

(Thousands of United States dollars)

		Amount
A.	Administrative expenses of the Secretariat	
	Established posts	1 582.90
	Temporary assistance for meetings	51.00
	General temporary assistance	55.00
	Overtime	12.00
	Consultants	93.00
	Ad hoc expert groups	250.00
	Common staff costs	670.80
	Representation allowance	4.60
	Travel of staff to official meetings	41.00
	Other official travel	64.00
	External printing and binding	30.00
	Rental and maintenance of premises	425.00
	Rental and maintenance of furniture and equipment	45.00
	Local transportation	18.00
	Communications	49.00
	Official functions	12.00
	Freight	25.00
	Miscellaneous services	20.00
	Supplies and materials	52.00
	Acquisition of furniture and equipment	288.00
		3 788.30
B.	Conference servicing costs a/ (two sessions)	1 400.00
C.	Programme support (United Nations) b/	213.70
	Total	5 402.00

a/ Subject to change on the basis of estimates under preparation by the Office of Programme Planning, Budgeting and Accounts of the Department of Administration and Management of the United Nations.

b/ Thirteen per cent charge on payroll services provided by United Nations Headquarters for the staff (Professional and above) of the Authority.

ISBA/A/10

Readex
Fiche

INTERNATIONAL SEABED AUTHORITY **ISBA**

Assembly

Distr.
GENERAL

ISBA/A/10
26 July 1996

ORIGINAL: ENGLISH

Resumed second session
Kingston, Jamaica
5-16 August 1996

FUNCTIONS OF THE INTERNATIONAL SEABED AUTHORITY IN THE FIRST YEAR OF ITS FULL FUNCTIONAL PHASE, INCLUDING MATTERS PENDING FROM THE WORK OF THE PREPARATORY COMMISSION FOR THE INTERNATIONAL SEABED AUTHORITY AND FOR THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

Report of the Secretary-General

EXECUTIVE SUMMARY

1. The present report describes the functions of the International Seabed Authority and the matters that it has to attend to during the early stages of its operations. An attempt has been made in the paper to review these functions, in order to establish a programme of work for the Secretariat.

2. The functions of the Secretariat of the Authority derive from the responsibilities of the Secretary-General under the United Nations Convention on the Law of the Sea and the Agreement relating to the Implementation of Part XI of the Convention (hereinafter referred to as the Implementing Agreement), and from the functions to be undertaken by the Assembly, the Council, the Legal and Technical Commission, the Finance Committee and any subsidiary bodies to be established by the Assembly.

3. The functions of the Secretariat outlined below are based on the early functions of the Authority as indicated in the Implementing Agreement as well as the matters that have been transmitted to the Authority by the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea (hereinafter referred to as the Preparatory Commission) and include, inter alia, the matters arising from the implementation of resolution II, and the review and completion of the draft seabed mining code, taking into account the provisions of the Implementation Agreement in relation thereto, and the review and completion of other agreements.

96-19078 (E) 020896 090896

/...

4. In addition to the substantive functions identified in this report, there are a number of internal and external administrative functions that are to be undertaken by the Secretariat on behalf of the Authority, which arise from the Authority's status as an autonomous international organization whose ultimate objective is to administer the Area for commercial purposes and to benefit mankind from the eventual exploitation of the mineral resources of the Area.

5. As a result of the review of the substantive functions of the Secretariat of the Authority, it became apparent that while a considerable amount of work has been undertaken in respect of the rules and regulations for the protection and preservation of the marine environment from activities in the Area, this work has not been completed and requires further review in the light of new information. In addition, the review reveals that a considerable amount of research work on this subject-matter had, and continues to take place by national bodies, research institutions, pioneer investors and potential applicants. In order to complete this aspect of the draft seabed mining code, it will be useful to come to a common understanding in a number of areas, such as the establishment of acceptance criteria (a kind of basic standard for protecting the environment against harmful effects) and the linkages between, inter alia, the Authority's monitoring programme, the programme for oceanographic and baseline environmental studies and the assessment of the potential environmental impacts of proposed activities in a plan of work.

6. With regard to the non-environment parameters of the content of a plan of work for exploration, the review also reveals that, based on considerations such as annual periodic reports of the registered pioneer investors, it would be very useful to come to a common understanding on their achievements and to establish reasonable performance targets during the 15-year period of an approved plan of work for exploration.

7. It is important to note that, in addition to the substantive functions described in the present report, the Secretariat is responsible for providing the services that facilitate the deliberations of the representatives of Member States in the Assembly, the Council, the Legal and Technical Commission and the Finance Committee and that part of the work programme that they assign to it. These services include, inter alia, producing reports and other documents that facilitate their deliberations; secretariat services to the organs and subsidiary bodies, including the provision of secretaries; meeting services (interpretation, verbatim reporting and précis-writing services); providing editorial, translation and documents reproduction services for the issuance of the documents of the Authority in the different working languages; organizing conferences, expert group meetings, seminars and workshops on topics of concern; and providing the programme planning, financial, personnel, legal, administrative, management and general services essential for the rational selection of work items and allocation of resources for the effective, economic and efficient performance of the functions of the Authority.

8. Finally, in relation to the protocol functions of the Secretariat and the status of the Authority as an autonomous international organization, the varied responsibilities of the Secretariat as contained in the draft Headquarters Agreement must be pointed out.

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 4	5
II.	SUBSTANTIVE FUNCTIONS OF THE AUTHORITY DURING ITS EARLY FUNCTIONAL PHASE	5 - 53	7
	A. Rules, regulations and procedures relating to the conduct of activities in the Area	5 - 11	7
	B. Regulations on the protection and preservation of the marine environment	12 - 28	9
	C. Regulations on the non-environment related elements of a plan of work for exploration	29 - 53	13
	1. Administering the resources of the Area	29 - 33	13
	2. Polymetallic nodule resource data for the Area	34 - 36	14
	3. Resource assessments after the registration of pioneer investors	37 - 41	15
	4. Activities undertaken by the registered pioneer investors in their pioneer areas	42 - 43	17
	5. Status of exploration	44 - 48	20
	6. Design and development of a test deep seabed mining system	49 - 52	21
	7. Functions of the Authority during 1997	53	22
III.	MATTERS PENDING FROM THE WORK OF THE PREPARATORY COMMISSION	54 - 106	23
	A. Periodic expenditures by registered pioneer investors	58 - 60	24
	B. Reporting by the certifying State	61 - 63	25
	C. Provision of data	64 - 69	26
	D. Relinquishment	70 - 79	27
	E. Exploration plan for reserved areas in the central region of the north-east Pacific	80 - 91	28
	F. Training	92 - 96	30

/...

CONTENTS (continued)

		Paragraphs	Page
	G. Outstanding issues (training)	97 - 106	31
IV.	FUNCTIONS OF THE SECRETARIAT OF THE INTERNATIONAL SEABED AUTHORITY	107 - 111	33
V.	PROGRAMME OF WORK OF THE SECRETARIAT IN 1997	112 - 117	34

I. INTRODUCTION

1. The functions reviewed below are reproduced from paragraph 5 of section I of the Annex to the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (hereinafter referred to as the Implementing Agreement). Paragraph 16 of section I of the Annex to that Agreement states that

> "The draft rules, regulations and procedures and any recommendations relating to the provisions of Part XI, as contained in the reports and recommendations of the Preparatory Commission, shall be taken into account by the Authority in the adoption of rules, regulations and procedures in accordance with Part XI and this Agreement".

As a result, the review undertaken is to establish the point of departure for the Authority in discharging each function based on Part XI, the Implementing Agreement and the reports and recommendations of the Preparatory Commission as appropriate.

2. In this regard, for each function, an effort is made to:

(a) Identify the extent to which there was agreement on the modalities for discharging the function as reflected in the relevant reports of the Preparatory Commission;

(b) Establish the effect of relevant provisions of the Implementing Agreement on the outcome of the deliberations of the Preparatory Commission as contained in its reports and recommendations;

(c) Identify the priority tasks that are required to be undertaken by the Authority in discharging those functions that have to be completed in the first year of its full functional phase in accordance with paragraphs 2 and 3 of section 1 of the annex to the Implementing Agreement.

3. The list of functions that the Authority is required to concentrate on until the approval of the first plan of work for exploitation is reproduced below. It will also be recalled that in accordance with paragraph 1 of section 2 of the Annex to the Agreement, the Secretariat of the Authority is also expected to provide services to facilitate the performance of the functions of the Enterprise until it begins to operate independently of the Secretariat.

(a) <u>Functions of the Authority</u>

(i) Processing of applications for approval of plans of work for exploration in accordance with Part XI and the Implementing Agreement;

(ii) Implementation of decisions of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea (hereinafter referred to as the Preparatory Commission) relating to the registered pioneer investors and their certifying States, including their rights and obligations, in

accordance with article 308, paragraph 5, of the Convention and resolution II, paragraph 13;

(iii) Monitoring of compliance with plans of work for exploration approved in the form of contracts;

(iv) Monitoring and review of trends and developments relating to deep seabed mining activities including regular analysis of world metal market conditions and metal prices, trends and prospects;

(v) Study of the potential impact of mineral production from the Area on the economies of developing land-based producers of those minerals which are likely to be most seriously affected, with a view to minimizing their difficulties and assisting them in their economic adjustment, taking into account the work done in this regard by the Preparatory Commission;

(vi) Adoption of rules, regulations and procedures necessary for the conduct of activities in the Area as they progress. Notwithstanding the provisions of annex III, article 17, paragraph 2 (b) and (c), of the Convention, such rules, regulations and procedures shall take into account the terms of the Interim Agreement, the prolonged delay in commercial deep seabed mining and the likely pace of activities in the Area;

(vii) Adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;

(viii) Promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;

(ix) Acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;

(x) Assessment of available data relating to prospecting and exploration;

(xi) Timely elaboration of rules, regulations and procedures for exploitation, including those relating to the protection and preservation of the marine environment.

(b) <u>Functions of the Enterprise</u>

(i) Monitoring and review of trends and developments relating to deep seabed mining activities including regular analysis of world metal market conditions and metal prices, trends and prospects;

(ii) Assessment of the results of the conduct of marine scientific research with respect to activities in the Area, with particular emphasis on research related to the environmental impact of activities in the Area;

(iii) Assessment of available data relating to prospecting and exploration, including the criteria for such activities;

(iv) Assessment of technological developments relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;

(v) Evaluation of information and data relating to areas reserved for the Authority;

(vi) Assessment of approaches to joint-venture operations;

(vii) Collection of information on the availability of trained manpower;

(viii) Study of managerial policy options for the administration of the Enterprise at different stages of its operation.

4. It is apparent from the above lists that the functions contained in items (b), (i) to (iv) to be performed by the Authority on behalf of the Enterprise are already incorporated in the functions of the Authority in respect of data gathering for decision-making.

II. SUBSTANTIVE FUNCTIONS OF THE AUTHORITY DURING ITS EARLY FUNCTIONAL PHASE

A. Rules, regulations and procedures relating to the conduct of activities in the Area

5. During 1997, the first year of the full functional phase of the Authority, not all the functions listed in the Implementing Agreement will be initiated by the Authority. In keeping with paragraph 2 of section 1 of the Annex to the Implementing Agreement, it is necessary to identify those functions that are most likely to be initiated and for which the Secretariat must be in a position to provide the services that will facilitate the deliberations of the representatives of Member States in the Assembly, the Council, the Finance Committee and the Legal and Technical Commission as required. With respect to the conduct of activities in the Area, the Implementing Agreement, inter alia, establishes when registered pioneer investors may submit applications for approval of plans of work for exploration and provides guidelines on the content of applications for the approval of a plan of work for exploration and the procedures relating thereto, the internal procedures for the Council and the Legal and Technical Commission regarding the consideration of such applications and decision-making, and the terms of contract.

6. In accordance with paragraph 6 (ii) of section 1 of the Annex to the Implementing Agreement, registered pioneer investors may request approval of

their plans of work for exploration within 36 months of the entry into force of the Convention (i.e., by 15 November 1997). In accordance with the same provision, for registered pioneer investors,

> "The plan of work for exploration shall consist of documents, reports and other data submitted to the Preparatory Commission both before and after registration and shall be accompanied by a certificate of compliance, consisting of a factual report describing the status of fulfilment of obligations under the pioneer investor regime, issued by the Preparatory Commission in accordance with resolution II, paragraph 11 (a)".

7. Paragraphs 6 (a) (i) of section 1 of the Annex to the Implementing Agreement establishes the financial and technical qualifications necessary for the approval of a plan of work submitted on behalf of a State or entity, or any component thereof referred to in resolution II, paragraph 1 (a) (ii) or (iii), other than a registered pioneer investor, which had already undertaken substantial activities in the Area prior to the entry into force of the Convention. In keeping with the principle of non-discrimination, paragraph 6 (a) (iii) establishes that such applicants shall obtain similar treatment to that received by registered pioneer investors.

8. Paragraph 7 of section 1 of the Annex to the Implementing Agreement also requires that any application for approval of a plan of work for exploration shall be accompanied by an assessment of the potential environmental impacts of the proposed activities and by a description of a programme for oceanographic and baseline environmental studies in accordance with the rules, regulations and procedures adopted by the Authority.

9. Other than these references to the content of an application for approval of a plan of work for exploration and the content of a plan of work, the only documentation available for the consideration of the Legal and Technical Commission in the formulation of rules, regulations and procedures for the approval of applications for plans of work for exploration are the reports and recommendations of the Preparatory Commission.

10. Indeed, a similar analysis of the framework and guidelines provided by the Implementing Agreement in relation to the complete set of regulations and procedures until the Council approves a recommendation by the Legal and Technical Commission points once again to the reports and recommendations of the Preparatory Commission.

11. These considerations require that a thorough review of the draft regulations relating to prospecting and exploration as well as the content of applications for the approval of plans of work for exploration considered by the Preparatory Commission be conducted together with an assessment of existing knowledge of the environmental impacts of activities in the Area, with a view to reformulating them in accordance with the Agreement and its Annex. To meet the deadline prescribed by the Agreement would require the adoption of the rules, regulations and procedures for the matters discussed in paragraph 5 above by the second part of the third session of the Assembly of the Authority in 1997, in order to provide the applicants time to submit their applications in accordance with the rules, regulations and procedures of the Authority.

B. Regulations on the protection and preservation of the marine environment

12. Special Commission 3 of the Preparatory Commission was charged with the mandate to prepare rules, regulations and procedures for the exploration and exploitation of the polymetallic nodules in the Area. Document LOS/PCN/SCN.3/WP.6 (Draft regulations on prospecting, exploration and exploitation of polymetallic nodules in the Area) was issued in 1985 and accepted by Special Commission 3 of the Preparatory Commission as the basis for discussion of its mandate to prepare rules, regulations and procedures for the exploration and exploitation of the polymetallic nodules in the Area, i.e., the seabed mining code. 1/ As pointed out in the explanatory note to that document, the set of articles contained therein begins with scope and use of terms, and goes on in sequential order to deal with prospecting and applications for approval of plans of work for activities in the Area, i.e., draft regulations on the content of applications for approval of plans of work, procedures relating thereto and terms of the contract. While the draft regulations did not contain provisions of the Convention dealing with general principles and objectives of Part XI which are constitutional in character and not of a regulatory nature, a set of addenda were issued to it, some of which contain provisions that are relevant to processing of applications for approval of plans of work for exploration in accordance with Part XI and the Implementing Agreement.

13. With regard to specific provisions dealing with the processing of applications for approval of plans of work for exploration, Parts III and IV of LOS/PCN/SCN.3/WP.6 provide a sequential order to deal with the application. Part III - Applications for Approval of Plans of Work is divided into four sections dealing with general provisions, content of the application, Plans of Work and Fees respectively. Part IV - Processing of Applications is divided into two sections dealing with Recording and transmittal of applications, and consideration of applications, approval of plans of work and execution of contracts. Within each section of both parts of the document are contained the specific provisions of relevance to that section. For example, under section 3, (Plans of Work) of Part III are provisions dealing with the contents of a proposed plan of work for exploration, the contents of a proposed plan of work for exploitation and Preference and priority among applicants.

14. Although the Implementing Agreement renders the provisions contained in some of the addenda that were issued for clarity and certainty to document LOS/PCN/SCN.3/WP.6 inapplicable, a number of them contain provisions of relevance to the content of applications for approval of a plan of work for exploration, procedures relating thereto and terms of contract. These are:

(a) LOS/PCN/SCN.3/WP.6/Add.5 - Protection and preservation of the marine environment from activities in the Area;

(b) LOS/PCN/SCN.3/WP.6/Add.6 - Accommodation of activities in the Area and in the marine environment;

(c) LOS/PCN/SCN.3/WP.6/Add.8 - Labour, health and safety standards.

15. Document LOS/PCN/SCN.3/WP.6 was discussed at 31 formal and informal meetings of Special Commission 3 in 1985 and 1986. In 1988, the Chairman of Special Commission 3, Mr. Jaap Walkate (Netherlands), after taking into account discussions on the document, revised it and issued it as document LOS/PCN/SCN.3/WP.6/Rev.1. 2/

16. The views expressed by delegations during the consideration of LOS/PCN/SCN.3/WP.6 and WP.6/Rev.1 are contained in the statements to the Plenary by the Chairman of Special Commission 3 (LOS/PCN/L.16, LOS/PCN/L.26 and LOS/PCN/L.32). 3/

17. Document LOS/PCN/SCN.3/WP.6/Add.5, "Protection and preservation of the marine environment from activities in the Area", was discussed at 25 meetings of the Special Commission in 1990 and 1991. The working paper was revised by the Chairman following several sessions of informal consultations and was issued on 27 August 1991 under a new title, "Protection and preservation of the marine environment from unacceptable changes resulting from activities in the Area" (LOS/PCN/SCN.3/WP.6/Add.5/Rev.1). 4/

18. For details on the issues of substance addressed during the consideration of LOS/PCN/SCN.3/WP.6/Add.5, see the statements to the Plenary by the Chairman of Special Commission 3 (LOS/PCN/L.79, LOS/PCN/L.84 and LOS/PCN/L.89). 5/

19. Document LOS/PCN/SCN.3/WP.6/Add.8, "Labour, health and safety standards" was discussed at six meetings of the Special Commission during the spring of 1992. During those discussions, a representative of the International Labour Organization (ILO) made a statement relating to the working paper and the role of the ILO in establishing labour standards. 6/

20. Of the three addenda to LOS/PCN/SCN.3/WP.6, document LOS/PCN/SCN.3/WP.6/Add.5 and its revision (LOS/PCN/WP.6/Add.5/Rev.1) as well as the documents containing the issues of substance addressed during their consideration are the main documents that along with the Implementing Agreement significantly add to the draft regulations on the content of applications for approval of plans of work, procedures relating thereto and terms of contract.

21. With regard to the regulations contained in documents LOS/PCN/SCN.3/WP.6/Add.5 and WP.6/Add.5/Rev.1, it will be recalled that in accordance with paragraph 12 of document LOS/PCN/L.87 (annex) relating to the Understanding on the Fulfilment of Obligations by the Registered Pioneer Investors and their certifying States, the Group of Technical Experts established in accordance with paragraph 6 of document LOS/PCN/L.41/Rev.1, annex, was mandated to review the state of deep seabed mining and to make an assessment of the time when commercial production might be expected to commence, within three months of the deposit of the sixtieth instrument of ratification or accession to the Convention. In paragraph 29 of document LOS/PCN/BUR/R.32 which contains the report by the Group of Technical Experts, it is stated:

> "The Group wishes to draw the attention of the Preparatory Commission to the importance of the environmental protection provisions of modern regulatory regimes. In the case of land-based mining, the approach to integrating environmental and economic objectives in a regulatory regime is

cited by the mining industry as a significant factor that influences their investment decisions.

> "This part of the deep seabed mining regime has yet to mature and there are many details and procedures to be worked out. There remains the potential for the regime to be developed in a manner that will promote investment or discourage it." 7/

22. Within this context, account must be taken of four other functions that the Authority is required to concentrate on under the terms of the Agreement which are directly related to the processing of applications for approval of plans of work for exploration. These are:

(a) Adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;

(b) Monitoring of compliance with plans of work for exploration approved in the form of contracts;

(c) Promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;

(d) Acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment.

23. Taken together with the provision that "the duration of a plan of work for exploration shall be 15 years", 8/ and the requirement of paragraph 7 of section 1 of the Annex to the Agreement which requires that

> "An application for approval of a plan of work shall be accompanied by an assessment of the potential environmental impacts of the proposed activities and by a description of a programme for oceanographic and baseline studies in accordance with the rules, regulations and procedures adopted by the Authority",

the four additional functions noted above provide a long-term basis for the Authority to adopt regulations that take advantage of current knowledge of the environmental impact of activities in the Area, and through the approved plans of work for exploration and other mechanisms such as the promotion and encouragement of the conduct of marine scientific research with respect to the environmental impact of activities in the Area, to establish measures to protect the environment and monitor the effectiveness of these safeguards, in particular for subsequent exploitation activities in the Area. In any event, rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment in consonance with the scope and means of verification by the Authority of compliance with measures to protect

the environment will be required in some form before plans of work for exploration can be approved.

24. Prior to the commencement of commercial exploitation and during the exploration phase for mining polymetallic nodules, it is important to continue national and international cooperative research efforts that have been conducted to determine the significance of the impacts that could arise from collecting, washing and lifting nodules from the seabed to the sea surface on the ability of the organisms that inhabit these environments to reproduce and repopulate the said areas.

25. The results of these research efforts will be invaluable in the formulation of acceptance criteria that will form the material content of standards for protecting the environment against harmful effects caused by certain activities.

26. At the present time knowledge is limited with regard to the environmental effects of commercial exploitation of deep seabed polymetallic nodules on the deep seabed itself. It has been suggested that the acquisition of the detailed knowledge of the environmental effects will necessarily involve comprehensive and large-scale activities over a prolonged period of time. In this context it is important to note the number of cooperative arrangements that were entered into by pioneer investors with other pioneer investors and potential applicants and reported upon in their periodic reports to the Preparatory Commission. 9/

27. It will be recalled that the Legal and Technical Commission is expected to make recommendations to the Council on, inter alia,

(a) The protection of the marine environment, taking into account the views of recognized experts in that field (article 165, para. 2 (e));

(b) The establishment of a monitoring programme to observe, measure, evaluate and analyse, by recognized scientific methods, on a regular basis, the risks or effects of pollution of the marine environment resulting from activities in the Area and to ensure that existing regulations are adequate and complied with (article 165, para. 2 (h));

(c) The implementation of the monitoring programme approved by the Council (article 165, para. 2 (h));

(d) The establishment of appropriate mechanisms for directing and supervising a staff of inspectors who shall inspect activities in the Area to determine whether the provisions of Part XI, the rules, regulations and procedures of the Authority and terms and conditions of any contract with the Authority, are being complied with (article 162, para. 2 (m)).

The Commission will also, inter alia:

(e) Formulate and submit to the Council the rules, regulations and procedures referred to in article 162, paragraph 2 (o), taking into account all relevant factors including assessment of the environmental implications of activities in the Area.

28. To facilitate this work, a need appears to exist to convene a group of experts meeting/workshop to assess the current state of knowledge on the environmental consequences of deep seabed mining. Such a workshop will have multiple objectives including recommendations on the most appropriate acceptance criteria for formulating standards for the protection of the environment against harmful effects and modifying them as more information becomes available, the status of national and international environmental impact study programmes and recommendations for additional work resulting from completed studies, a framework within which future work can be undertaken, whether as part of scientific research or as a component of the plan of work for exploration, approved in the form of a contract incorporating the major elements of the monitoring programme of the Authority.

C. Regulations on the non-environment related elements of a plan of work for exploration

1. Administering the resources of the Area 10/

29. The area of the world's oceans totals approximately 361.1 million square kilometres (sq km), which represents 71 per cent of the Earth's surface. If all coastal States were to claim a 200-nm exclusive economic zone limit, the extent of ocean areas under national jurisdiction would be approximately 109.4 million sq km, making the size of the area beyond the limits of national jurisdiction (the Area) approximately 251.7 million sq km or 49 per cent of the Earth's surface. 11/

30. Article 157, paragraph 1, of the Convention states that:

> "The Authority is the organization through which States Parties shall, in accordance with this Part, organize and control activities in the Area, particularly with a view to administering the resources of the Area."

31. In view of the interest of States Parties in conservation and rational management in the development of the resources of the Area, 12/ the Authority needs an effective and sustained effort to collect, manage and distribute information on the Area in order, inter alia, to provide an adequate understanding of the environmental impacts likely to be caused by deep seabed mining, to estimate the magnitude of the polymetallic nodule resources in the world's oceans, in particular the potentially recoverable resources in various ocean areas, and, in accordance with paragraph 2 of article 143 of the Convention, to promote and encourage marine scientific research to foster the objective of States Parties to increase the global reserves of the metals available in polymetallic nodules.

32. The interests of the Enterprise, which is to conduct its initial operations through joint ventures, are best served, in accordance with paragraph 1 of article 170 of the Convention, by its participation in activities in the Area through the reserved areas. Indeed, the area reserved for the Authority in the central region of the north-east Pacific Ocean is the only mine site for which the Authority already has a comprehensive plan for exploration that provides an assessment of the geological and related data available to formulate the plan

and that sets out the objectives, estimated costs, nature and form of information required at various stages, and the duration of the plan. As such it is the area for which the Authority has the most resource assessment data.

33. The same reserved area also has been the site where collaborative efforts among pioneer investors have demonstrated the possibilities that exist in that regard. 13/

2. Polymetallic nodule resource data for the Area

34. Recent years have seen considerable activity to generate survey data as well as detailed information concerning deep seabed areas expected to contain mineral deposits. In addition to polymetallic nodule resources that the Convention identifies as the priority mineral resources for which rules, regulations and procedures are to be adopted and approved by the Assembly, 14/ other known mineral resources drawing considerable interest are cobalt-rich manganese oxide on bedrock, polymetallic sulphide deposits along ocean-floor spreading centres and red clay deposits. With respect to these and other minerals to be found in the Area, the Convention stipulates that rules, regulations and procedures for the exploration and exploitation of such resources shall be adopted within three years from the date of a request to the Authority by any of its members for the adoption of such rules in respect of such resources. 15/ With regard to polymetallic nodule resources, prospecting and pioneer activities have resulted in basic information that has made it possible to indicate the resource potential in future mining areas. The characteristics of these selected areas are also important for the design of mining equipment and for concept selection. The deep seabed area is vast and to date only a very small portion of it has been explored and charted. Three ocean areas in the Area are considered as primary areas:

(a) The Clarion-Clipperton area between the west coast of the continental United States and Hawaii, whose size is approximately 2.5 million sq km. Hitherto, the largest nodule resources have been found in this area between the two fracture zones, Clarion and Clipperton, in the Pacific Ocean. Several nations and consortia have been carrying out prospecting and surveying work in order to register the precise location, scope and accessibility of these resources. Indeed six of the areas registered to the pioneer investors can be found in this area; 16/

(b) The second area lies in the south-western Pacific basin. This area is about 1 million sq km;

(c) The third area, in the central Indian Ocean basin, is about 500,000 sq km. The pioneer site awarded to India is in this area.

35. These three areas account for about 2 per cent of the Area. Analyses of stations in the Scripps Institution of Oceanography's sediment data bank reveal, however, that several other areas appear to contain sufficiently metal-rich nodules to justify exploration for sites suitable for first-generation mining. These include, inter alia, the Peru basin (between latitude 8° and 5° S and longitude 90° and 92° W), the South Atlantic Ocean (between latitude 23° and

45° S and longitude 5° W and 30° E) and the central south equatorial Indian Ocean.

36. Assessments prior to the establishment of the Authority and based on public data took the form of compilations of chemical data from the literature and were presented as tables and maps. 17/ As sampling increased, the development of computerized data banks, nodule chemical data and computerized mapping became a necessity. 18/ Worldwide, as the results of various prospecting expeditions became available, various regions of the world ocean in the Area were assessed for their resource potential. These included utilizing, inter alia, the work of the R.V. Valdiva and the R.V. Gaveshani in the Indian Ocean, the results obtained by CNEXO from 13 cruises in the South Pacific and CCOP/SOPAC also in the South Pacific, and cruises conducted by the Geological Survey of Japan in the north central Pacific as well as United States-based consortia and registered pioneer investors.

3. Resource assessments after the registration of pioneer investors

37. It will be recalled that after the registration of France, Japan and the Russian Federation, the Group of Technical Experts of the Preparatory Commission was convened to prepare a comprehensive plan for the early stages of exploration of one mine site in the area reserved for the Authority in the central region of the north-east Pacific, indicating the nature of activities to be undertaken, the data and information to be obtained and the costs involved.

38. In the report of the Group of Technical Experts to the General Committee (LOS/PCN/BUR/R.5), the Group of Experts suggested that the exploration plan should be broken down into two stages:

(a) Stage I would be designed to provide additional information on the total area and to establish a uniform database to allow identification of prime areas;

(b) Stage II would be designed, through evaluation of the results of stage I, to undertake detailed survey activities to identify possible mine sites and the reserves that could be mined. 19/

39. The Group considered that the exploration plan as developed in its report would be completed at the same time that mining and processing technology were tested and considered appropriate, adequate mine sites identified, the market environment proved attractive for investment, and when a decision to proceed to a feasibility study would have to be taken.

40. In chapter IV of the report prepared by IFREMER/AFERNOD, DORD and Yuzhmorgeologiya in fulfilment of the obligations to undertake this work in respect of their contributed areas, titled "Preparatory work in the International Seabed Authority reserved area - August 1991", they make the following statement with regard to some of the technological problems that will have to be overcome to facilitate stage I exploration and its impact on the assessment of polymetallic nodule resources in the reserved area.

"The multi-frequency exploration system (MFES) and seismo-acoustic methods yield valuable information on the continuity of manganese nodules coverage on the sea floor in broad areas. However, the density of the information is not adequate to estimate the resources of each mineable field in the area reserved for the Authority. This is confirmed by geostatistical calculations using data from neighbouring areas. Only a global estimation can be made of the in situ resources of polymetallic nodules, which is equal to 565 million wet tonnes.

"From the available information, it is also difficult to identify the best areas for future detailed exploration, because:

- The density of station data information is not regular over the area reserved for the Authority;

- The bathymetric methods used were not sufficiently reliable for specific mapping of the bottom relief.

"The best objective of exploration during stage I would be to delineate the best areas for detailed exploration, leaving aside some parts of lesser economic interest.

"From the present knowledge acquired by the three pioneer investors, the following recommendations can be made:

- A complete survey of the area reserved for the Authority by multi-beam echosounder;

- Additional survey using multi-frequency acoustic systems to complete the grid on the whole area reserved for the Authority;

- Additional sampling stations to complete the grid of information on the whole area reserved for the Authority.

"All those surveys must be done using the best navigation systems presently available."

41. The preparatory work was subsequently reviewed by the Group of Technical Experts, which made, inter alia, the following observations on the report with respect to the information provided on the bathymetry of the area, the concentration of the information for estimating the resources in mineable areas and the systems used for surveying the area: 20/

"Bathymetry

"This limitation of bathymetric maps in providing detailed local topography is exemplified when a comparison is made among the interpretations obtained by each pioneer investor of the same part of the area reserved for the Authority. While main features of the relief are present in the three maps prepared by the three pioneer investors respectively, such as a small seamount culminating at 4,500 metres in one

instance, some details were missed by one pioneer investor or another. (This is a common problem because, inter alia, the sea floor tracks covered by different investigators can vary.)

"Concentration of information for estimating the resources in mineable areas

"However, the concentration of the information is not adequate to estimate the resources of each mineable field within the area reserved for the Authority. This is confirmed by geostatistical calculations using data from neighbouring areas. Thus, only a 'global estimation' could be made of the in situ resources of the whole of the area reserved for the Authority. (In 'global estimation' (global in the sense that the whole of the relevant area is covered), the total amount of polymetallic nodules in the whole of the area reserved for the Authority is computed by multiplying the average abundance for the whole of the area reserved for the Authority by the total surface, i.e., 71,750 square kilometres; this method contrasts with the method of estimating the resources of specific parts of the whole area and adding those estimates to arrive at the total for the whole. The application of the latter method was not possible owing to the inadequacy of the concentration of information.)

"Survey systems

"As the report of the three pioneer investors explained, measurements obtained from equipment held at the sea surface lack the necessary accuracy and resolution to display bottom features of less than a few tens of metres in width. Detailed exploration to assess the location of all possible obstacles to mining as well as the distribution and content of nodule fields must rely upon more sophisticated systems. However, with most sophisticated systems currently available, the time needed to survey large areas is tremendously long and the cost very high, because (a) the width of the area surveyed along the track is very limited, and (b) the along-track speed of the system is very slow."

4. Activities undertaken by the registered pioneer investors in their pioneer areas

42. It is important to note that since their registration, each of the six registered pioneer investors has undertaken some work in the area allocated to them in respect of up to four critical areas; exploration, environmental baseline studies, design and development of a test deep seabed mining system and extraction of the metals of interest from polymetallic nodules. Of direct relevance to the Authority until the approval of the first plan of work for exploitation are those activities connected to:

(a) Exploration (stage I of the comprehensive plan);

(b) Environmental baseline studies;

(c) Design and development of a test deep seabed mining system (end of stage II of the comprehensive plan for exploration).

43. As part of its mandate to review the state of deep seabed mining and to assess the time when commercial production might be expected to commence, the Group of Technical Experts, drawing upon information notes provided to it by the registered pioneer investors as well as their annual periodic reports, made the following summary of the activities of the six registered pioneer investors since their registration. 21/

"India

"After the registration of India as a pioneer investor, exploration activities have continued with the use of improved technologies. These have included sea floor mapping of the entire area (150,000 sq km) using a multi-beam swath bathymetric mapping system called Hydrosweep, sampling of polymetallic nodules at closer grids, geotechnical studies and collection of baseline environmental data in addition to gravity and magnetic data.

"As a first step towards the development of various components of deep seabed mining technology, a design and development programme has been initiated. The first phase of the programme, aimed at the development of a polymetallic nodule collector system for testing on land and in a shallow basin, has been completed. The second phase of the programme covers the design of a collector unit, studies of hydraulic and airlift systems, development of a remotely operated vehicle for pipelines inspection, waterproofing, development of an electrical/hydraulic component for underwater use, a hydraulic nodule pick-up system and an instrumentation and control system, etc.

"In the field of extractive metallurgy, 3 of the 15 processing routes for extraction of metals have been selected for upscaling. The campaigns at the upscaled levels are in progress.

"Deep Ocean Resources Development Co., Ltd. (DORD) - Japan

"Exploration work has been carried out by collecting polymetallic nodules, conducting chemical analyses of the nodules and compiling detailed topographic data. Exploration work will be continued. The research and development project of the mining system has been carried out since 1981 and a comprehensive ocean test is planned to take place in 1996 for obtaining efficient and sufficient data and information for future commercial deep seabed mining. 22/

"The project entailing metal recovery from polymetallic nodules has been carried out since 1989.

"Baseline environmental investigations were begun in 1991. Using the data from these investigations, a model will be elaborated which will

enable the estimation of the environmental impact on the ocean, including its ecosystem.

"IFREMER/AFERNOD - France

"Following the result of the pre-feasibility study carried out from 1984 to 1989, IFREMER/AFERNOD took the decision to reduce its activities and limit them only to the fulfilment of its obligations under resolution II and a general monitoring of the situation.

"This monitoring included the revision and compilation of all acquired data, the reorganization of the databases and a continuous survey of the evolution of the metals market and the world economy.

"Yuzhmorgeologiya - Russian Federation

"Since August 1990 Yuzhmorgeologiya has not conducted regular geological and geophysical research aimed at further enhancing the study of polymetallic nodules in the sector allocated to it because it was concluded that there was a high degree of probability that industrial extraction of nodules in the Clarion-Clipperton zone could not commence before the year 2010.

"Research efforts have concentrated on correlation and statistical analysis of the information already obtained: verification of certain general trends throughout the Clarion-Clipperton zone, technical and economic studies of the feasibility of industrial extraction of nodules and selection and study of the monitoring zones required for the conduct of environmental experiments.

"China Ocean Mineral Resources Research and Development Association (COMRA) - China

"COMRA is in the process of implementing a long-term programme focusing on exploration, design and development of a deep seabed mining system and of processing techniques. Other investigations are being conducted to compare planning options and to develop market projections for future supply and demand of metals as well as to establish an economic model for the exploitation of polymetallic nodules.

"Priority is being given to exploring the remaining part of the pioneer area with a view to reducing the intervals between sampling stations as well as the grids used in order to identify the deep seabed mining area. Efforts include developing the technical criteria for both exploration at sea and laboratory analyses and testing, preparing standard samples and establishing a database. Survey work includes geological sampling, bottom photography and geophysical surveys.

"Research is being carried out on ore collection and lifting, including a remote operational system. The current work in extractive metallurgy is devoted to carrying out comparative studies on several processes in the laboratory and studies on ore dressing techniques, such as the technique for special processing of polymetallic nodules and the study on high-efficiency flotation agents.

"Interoceanmetal Joint Organization (IOM) - Poland

"Activities of IOM have focused on the following areas: correlation of the results of regional geological and geophysical studies of the site reserved for IOM; research into the development of technologies for deep seabed mining and the metallurgical processing of polymetallic nodules; and preparation of a computerized database on the site reserved for the Authority."

5. Status of exploration

44. On the basis of the exploration effort reported upon since registration along with the results of the preliminary work done by IFREMER/AFERNOD, DORD and Yuhzmorgeologiya in the Authority's reserved area as a precursor to stage I of the comprehensive exploration plan, it is very difficult to assess the results of the pioneer work undertaken since registration in relation to exploration. While it is clear that a fundamental consideration in the resource assessment work that has to be conducted during stage I of exploration will require improvements in the survey systems (reduction in the length of time for surveys and associated costs) and methods for bathymetric mapping of the bottom relief (reliability), the progress made in these areas since registration is unknown to the Authority. The reports submitted by the pioneer investors are for the most part inadequate to obtain a clear picture of their progress, pointing to a need for a more precise format. 23/

45. With regard to the progress that has been made since registration in relation to exploration, it is proposed that a workshop/seminar be convened to assess the current state of deep seabed mineral exploration with a view to determining if there are any outstanding technical issues to be overcome as well as to provide the Authority with a clear set of guidelines for work that may be expected of a contractor in a plan of work for exploration approved in the form of a contract (stage I of the exploration plan).

46. The considerations given above together with the progress achieved by the registered pioneer investors in their efforts to convert polymetallic nodule resources to reserves provide part of the basis for the work that the Authority has to fulfil to, inter alia, administer the polymetallic nodule resources of the Area.

47. In addition, with respect to the Area, the Authority will need to initiate its own resource assessment work taking into account its mandate to administer the resources of the Area and to facilitate the conversion of resources to reserves of metal as follows:

(a) Global estimates. Recovering data in the public domain on resources of the Area, in particular, polymetallic nodules, with a view to estimating their economic potential;

(b) Regional estimates: Recovering data available on polymetallic nodule resources in the primary areas (Clarion-Clipperton, South Pacific Ocean and central Indian Ocean basin) with a view to monitoring trends in the development of technologies for mining nodule resources as well as encouraging marine scientific research and the work of contractors in the conversion of potential ore bodies located in these areas to reserves;

(c) Site-specific information, developed from its reserved areas and allocated areas on the conversion process. This would include the results of measures taken during the exploration phase to protect the environment and to monitor the effectiveness of environmental safeguards during the subsequent exploitation phase, and resource conservation issues in connection with mining (pattern mining as opposed to mining of the richest zones of a mine site first) and the issue of the retention of manganese tailings in a three-metal operation.

48. The effectiveness of the Authority's work in resource assessment of polymetallic nodules in the Area will be greatly facilitated by its ability to take advantage of advantage in computer technology and software designed for this purpose. A fundamental consideration in this regard is for the Authority to obtain the bathymetry of the relevant parts of the Area and to acquire the capability to zoom in and out of various parts of the Area. Bathymetric charts showing the contour of the sea floor are, like topographic maps on land, the basis on which many other types of information are plotted. It is essential that good bathymetric charts be available if other information, such as the distribution of geologic formations and structures and delineation of mineral deposits are to be analysed and interpreted in a meaningful way. Mineral resource data are also best portrayed by means of graphical representations. Mapping (bathymetric charts) and graphical representations of mineral resource data can both be achieved at the present time through computer applications. As a result, the Authority will require this capability (personnel as well as software and hardware) to effectively discharge its functions.

6. Design and development of a test deep seabed mining system

49. In respect of the work undertaken by the registered pioneer investors in this regard, the Group of Technical Experts reported that India, Japan and to a limited extent China and Poland had been active during the period. France had taken the decision to reduce its activities and to monitor the situation while the Russian Federation had reported no activities in this regard. It was stated that India had completed "the first phase of a design and development programme aimed at the development of a polymetallic nodule collector system for testing on land and in a shallow basin" and that Japan, which had been carrying out a research and development effort since 1981, was planning a comprehensive ocean test in 1996 "to obtain efficient and sufficient data and information for future commercial deep seabed mining." 24/

50. In the same report, the Group of Technical Experts stated:

> "In the field of deep seabed mining, two of the three basic design concepts have been abandoned or shelved: the continuous line-bucket dredge and the shuttle system. The system envisaged and developed in parts included the collection of polymetallic nodules by either a towed or a self-propelled collector, and the lifting of nodules through a 5-km-long vertical riser pipe utilizing a centrifugal pump or an air lift. However, an integrated mining system, even on a pilot scale of long duration, has not yet been demonstrated. The collector system, to be operational in a high-pressure and low-temperature environment while operating on soil of poor strength, demands special equipment components and material which need to be tested in the actual deep seabed environment. The development of an integrated mining system that would be operational in an actual deep seabed environment on a sustained basis is demanding both in terms of time and effort and requires substantial financial inputs." 25/

51. It will be recalled also that in two consecutive annual reports presented by IOM and its certifying States, they call for cooperation in the development of technologies for deep seabed mining "with a view to reducing costs while simultaneously enhancing the effectiveness of research." 26/

52. In view of the above, a need appears to exist to convene a seminar/workshop to help to identify the most effective and cost-efficient system, and to explore possible areas of cooperation in the development of deep seabed mining technology, bringing together registered pioneer investors, potential applicants for approval of plans of work for exploration and concerned organizations, institutions and potential suppliers of such technology.

7. Functions of the Authority during 1997

53. In the light of the priority issues and functions identified for the Authority during the early stages of its full functional phase and the need to adopt an evolutionary approach in the setting up and the functioning of the organs and subsidiary bodies of the Authority, it may be said that during 1997, the Authority shall begin to implement the functions specified below, which form a part of the functions specified by the Implementing Agreement in paragraph 5 of section 1 of the Annex:

(a) Processing of applications for approval of plans of work for exploration in accordance with Part XI and the Implementing Agreement;

(b) Implementation of decisions of the Preparatory Commission relating to the registered pioneer investors and their certifying States, including their rights and obligations, in accordance with article 308, paragraph 5, of the Convention and resolution II, paragraph 13;

(c) Monitoring of compliance with plans of work for exploration approved in the form of contracts;

(d) Adoption of rules, regulations and procedures necessary for the conduct of activities in the Area as they progress. Notwithstanding the provisions of annex III, article 17, paragraph 2 (b) and (c), of the Convention, such rules, regulations and procedures shall take into account the terms of the Implementing Agreement, the prolonged delay in commercial deep seabed mining and the likely pace of activities in the Area;

(e) Adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;

(f) Promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;

(g) Acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;

(h) Assessment of available data relating to prospecting and exploration.

Functions of the Enterprise. On behalf of the Enterprise, these functions are:

(a) Evaluation of information and data relating to areas reserved for the Authority;

(b) Collection of information on the availability of trained manpower;

(c) Assessment of approaches to joint-venture operations.

III. MATTERS PENDING FROM THE WORK OF THE PREPARATORY COMMISSION

54. The statement of the Chairman of the Preparatory Commission at the end of its resumed twelfth session (1994, New York) provided an updated report on the status of the implementation of the obligations of the registered pioneer investors under resolution II and the related understandings (LOS/PCN/L.115/Rev.1). In that statement, in relation to the certificate of compliance that the General Committee of the Preparatory Commission had agreed to provide each registered pioneer investor, it is indicated that:

> "There will be annexed to each certificate a revised version of the report on the status of implementation of the obligations of the registered pioneer investors under resolution II and the related understandings (LOS/PCN/BUR/INF/R.12), supplemented by documents LOS/PCN/BUR/R.43, LOS/PCN/BUR/R.44, LOS/PCN/BUR/R.45, LOS/PCN/BUR/R.46 and other relevant documents. This document will be issued under the symbol LOS/PCN/145."

55. By the final session of the Preparatory Commission, seven pioneer investors had been registered by the General Committee (the executive body of the Preparatory Commission for the implementation of resolution II). These were India on 17 August 1987, IFREMER/AFERNOD (France), DORD (Japan) and Yuzhmorgeologiya (Union of Soviet Socialist Republics) all on 17 December 1987, COMRA (China) on 5 March 1991, Interoceanmetal Joint Organization (Bulgaria, Cuba, Czech and Slovak Federal Republic, Poland and Union of Soviet Socialist Republics) on 21 August 1991 and the Republic of Korea on 2 August 1994.

56. Pursuant to the decisions of the General Committee to register the pioneer investors, a series of understandings on the fulfilment of obligations by the registered pioneer investors and their certifying States was subsequently adopted. The understandings created several new obligations as a quid pro quo for the waiver of certain conditions for registration required under resolution II, and the granting of certain concessions to the first group of pioneer investors such as self-selection of substantial parts of the areas allocated to them.

57. The obligations of the registered pioneer investors are considered under the following headings: (a) periodic expenditures; (b) reporting by the certifying State; (c) provision of data; (d) relinquishment; (e) exploration plan for reserved areas in the central region of the north-east Pacific; and (f) training.

A. Periodic expenditures by registered pioneer investors

58. Resolution II, paragraph 7 (c), calls for periodic expenditures by pioneer investors in the pioneer areas of an amount to be determined by the Preparatory Commission. For India, France, Japan and the Russian Federation, paragraph 4 of LOS/PCN/L.87, annex, states that periodic expenditures incurred in respect of the development of their respective pioneer areas shall be determined by the Preparatory Commission in consultation with and with the cooperation of each registered pioneer investor within 12 months of the adoption of the Understanding. The Understanding was adopted on 30 August 1990.

59. By paragraph 4 of LOS/PCN/L.102, annex, the same obligation applies to COMRA, and by paragraph 4 of LOS/PCN/L.108, annex, to IOM. By paragraph 4 of LOS/PCN/L.115/Rev.1, annex, the same obligation also applies to the Government of the Republic of Korea.

Status

60. The Preparatory Commission did not determine the amount of the periodic expenditures. The Commission recognized that it was difficult during its period of existence to provide annual amounts of expenditure (LOS/PCN/L.113/Rev.1, para. 13). The Russian Federation reported a total expenditure for 1990-1991 of US$ 850,000 (LOS/PCN/BUR/R.14). No other pioneer investor provided the Preparatory Commission with annual expenditure amounts.

B. Reporting by the certifying State

61. Resolution II, paragraph 12 (b) (ii), requires the certifying State to report on activities carried out by it, its entities or natural or juridical persons. Paragraph 5 of LOS/PCN/L.87, annex, provides that reports to the Commission on pioneer activities as defined in resolution II, paragraph 1 (b), carried out in the areas by the registered pioneer investors would be provided annually by the concerned certifying States (India, France, Japan and the Russian Federation). Paragraph 5 of LOS/PCN/L.102, annex, paragraph 5 of LOS/PCN/L.108, annex, and paragraph 5 of LOS/PCN/L.115/Rev.1, annex, contain the same obligation for the certifying States: China, Bulgaria, Cuba, Czech and Slovak Federal Republic, Poland and the Russian Federation, and the Republic of Korea respectively.

Status

62. The following periodic reports on the activities of the registered pioneer investors were submitted to the Preparatory Commission by the certifying States:

Certifying State	Documents	Period covered
India 1991	LOS/PCN/BUR/R.11 (27 February 1992)	1 September 1990-31 December 1991
	LOS/PCN/BUR/R.24 (27 March 1993)	1 January-31 December 1992
	LOS/PCN/BUR/R.34 (7 February 1994)	1 January-31 December 1993
Japan 1991	LOS/PCN/BUR/R.12 and Corr.1 (28 February 1992)	1 September 1990-31 December 1991
	LOS/PCN/BUR/R.23 (25 March 1993)	1 January-31 December 1992
	LOS/PCN/BUR/R.35 (31 January 1994)	1 January-31 December 1993
France 1991	LOS/PCN/BUR/R.13 (2 March 1992)	1 September 1990-31 December 1991
	LOS/PCN/BUR/R.22 (23 March 1993)	1 January-31 December 1992
	LOS/PCN/BUR/R.31 (31 January 1994)	1 January-31 December 1993
Russian Federation	LOS/PCN/BUR/R.14 (6 March 1992)	16 August 1990-1 January 1992
	LOS/PCN/BUR/R.25 (26 March 1993)	1 January-31 December 1992
	LOS/PCN/BUR/R.43 (2 August 1994)	1 January 1993-1 August 1994
China	LOS/PCN/BUR/R.20 (2 March 1993)	1 January-31 December 1992
	LOS/PCN/BUR/R.33 (1 February 1994)	1 January-31 December 1993

Certifying State	Documents	Period covered
Bulgaria, Cuba, Czech and Slovak Federal Republic, Poland and Russian Federation	LOS/PCN/BUR/R.30 (2 September 1993)	20 August 1992-30 June 1993
Republic of Korea		

Other than the Russian Federation, which submitted a periodic report through 1 August 1994, India, Japan, France and China submitted periodic reports through 31 December 1993. Poland submitted a periodic report on behalf of the certifying States of IOM through 30 June 1993.

63. It will be recalled that paragraph 5 of document LOS/PCN/L.114/Rev.1 states that

> "During the discussion of this item in the General Committee certain delegations stated that it was difficult to understand the scientific terms used in the reports. It was also suggested that a more systematic format should be used for these periodic reports. In addition, the view was expressed that these reports should indicate the impact of the activities of the registered pioneer investors on the marine environment."

The Authority may wish to address this matter.

C. Provision of data

64. The three registered pioneer investors IFREMER/AFERNOD (France), DORD (Japan) and Yuzhmorgeologiya (Russian Federation) were required as part of their preparatory work to compile and illustrate all the existing data in the areas reserved for the Authority (LOS/PCN/L.87, annex, para. 7 (a)).

65. By paragraph 8 of LOS/PCN/L.102, annex, LOS/PCN/L.108, annex, and paragraph 7 of LOS/PCN/L.115/Rev.1, annex, COMRA (China), IOM (Bulgaria, Cuba, Czech and Slovak Federal Republic, Poland and Russian Federation) and the Republic of Korea respectively were required to provide computer diskettes containing data collected by them on stations, grade and abundance of nodules in the areas reserved for the Authority resulting from their registration.

Status

66. IFREMER/AFERNOD, DORD and Yuzhmorgeologiya submitted a joint report entitled "Preparatory work in the International Seabed Authority reserved

area - August 1991" to the Preparatory Commission. That report was considered by the Group of Technical Experts from 18 to 20 February 1992. The Group found that the objective of the preparatory work had been fully met.

67. China submitted a diskette containing the required data to the Preparatory Commission (LOS/PCN/BUR/R.21).

68. The delegation of Poland, on behalf of IOM, submitted a preliminary report containing the required data (LOS/PCN/BUR/R.46).

69. The Government of the Republic of Korea was only registered by the General Committee as a pioneer investor on 2 August 1994; it is now to submit the required data to the Authority.

D. Relinquishment

70. Under resolution II, paragraph 1 (e), the pioneer investor shall relinquish portions of the pioneer area to revert to the Area, in accordance with the following schedule:

(a) 20 per cent of the area allocated by the end of the third-year from the date of the allocation;

(b) An additional 10 per cent of the area allocated by the end of the fifth year from the date of the allocation;

(c) An additional 20 per cent of the area allocated or such larger amount as would exceed the exploitation area decided upon by the Authority in its rules, regulations and procedures, after eight years from the date of allocation of the area or the date of the award of a production authorization, whichever is earlier.

Status

71. In document LOS/PCN/L.41/Rev.1, annex, it is stated that applicants which had relinquished in advance portions of the application areas simultaneously with the application would be deemed to have complied with resolution II, paragraph 1 (e). This applies to France, Japan and the Russian Federation.

72. LOS/PCN/L.41/Rev.1, annex, paragraph 13 (3), requires India to conform to the provisions on relinquishment of resolution II. Under those provisions, India, which became a registered pioneer investor on 17 August 1987, was due to relinquish 20 per cent of its allocated area by 17 August 1990, a further 10 per cent of the area allocated by 17 August 1992 and an additional 20 per cent by 17 August 1995.

73. India notified the General Committee that, in accordance with resolution II, 20 per cent of its pioneer area (30,000 sq km) had been relinquished. The area relinquished was that bounded by the lines joining the turning-points and the geographical coordinates indicated in the schedule annexed to document LOS/PCN/BUR/R.44. The date 17 August 1992 marked the fifth

year of India's allocation and 17 August 1995 the eighth. India is therefore still to relinquish the remaining 30 per cent of its pioneer area.

74. The Interoceanmetal Joint Organization, registered on 21 August 1991, was due to relinquish 20 per cent of its allocated area by 21 August 1994 and a further 10 per cent of the area allocated by 21 August 1996.

75. The delegation of Poland, on behalf of the registered pioneer investor, IOM, and its certifying States, notified the General Committee that, in accordance with the schedule established in paragraph 1 (e) (i) of resolution II, IOM had relinquished 20 per cent of the pioneer area that was situated in the southern part of the pioneer area and adjoined the area reserved for the Authority. The relinquished area measured 30,672 sq km or 20.45 per cent of the pioneer area (LOS/PCN/BUR/R.45).

76. COMRA (China), which became a registered pioneer investor on 5 March 1991, was due to relinquish 20 per cent of its allocated area by 5 March 1994 and a further 10 per cent of the allocated area by 5 March 1996.

77. At the twelfth session of the Preparatory Commission, held at Kingston from 7 to 11 February 1994, China had reported the sinking of its research vessel R.V. Xiangyanghong 16. As a consequence China had to postpone its arrangements to comply with the prescribed schedule for the relinquishment of areas (LOS/PCN/L.114/Rev.1, para. 14). China reiterated its intention to relinquish 30 per cent of its allocated area at the end of the fifth year, in accordance with resolution II, paragraph 1 (e). As 5 March 1996 marked the end of the fifth year, China is still to relinquish 30 per cent of its allocated area.

78. The Republic of Korea, registered on 2 August 1994, is due to relinquish 20 per cent of its allocated area by 2 August 1997 and a further 10 per cent of the allocated area by 2 August 1999.

79. The General Committee recommended to the International Seabed Authority that the Council should continue monitoring the relinquishment of areas by the registered pioneer investors. 27/

E. Exploration plan for reserved areas in the central region of the north-east Pacific

General plan

80. A comprehensive plan for the early stages of exploration of one mine site in the area reserved for the Authority in the central zone of the north-east Pacific is contained in a report of the Group of Technical Experts to the General Committee (LOS/PCN/BUR/R.5).

Preparatory work

81. Three registered pioneer investors, IFREMER/AFERNOD (France), DORD (Japan) and Yuzhmorgeologiya (Russian Federation), had to prepare jointly the preparatory work which consisted of compiling and illustrating all the existing

data on the areas reserved for the Authority in the central region in order to facilitate detailed planning and implementation of the first stage of the exploration plan.

Status

82. The list of data and information gathered by France, Japan and the Russian Federation on the Authority's reserved areas was submitted in August 1991. The report, entitled "Preparatory work in the International Seabed reserved area - August 1991", was submitted to the Preparatory Commission and considered by the Group of Technical Experts from 18 to 20 February 1992. The Group found that the objective of the preparatory work had been fully met and recommended that the implementation of stage I of the exploration plan could then be undertaken. It also recommended that a detailed plan of work and operational schedule for stage I could be developed jointly by the three pioneer investors (LOS/PCN/BUR/R.10).

83. The General Committee approved the recommendations of the Group of Technical Experts on 12 March 1992 (LOS/PCN/L.102).

Stage I of the plan for exploration

84. The basis of the obligation for the first group of applicants (France, Japan and the Russian Federation) to assist the Preparatory Commission in the exploration of a mine site and in the preparation of a plan of work with respect to the mine site is to be found in document LOS/PCN/L.41/Rev.1, annex, paragraph 14, which states:

> "Notwithstanding the provisions of paragraph 12 (a) (i) of resolution II, the first group of applicants will assist the Preparatory Commission and the Authority in the exploration of a mine site for the first operation of the Enterprise and in preparing a plan of work in respect of such a mine site. The conditions and extent of this assistance will be discussed and agreed following registration, applying mutatis mutandis the provisions of paragraph 7 (c) of resolution II."

85. In the Understanding on the Fulfilment of Obligations of the Pioneer Investors and their Certifying States of 30 August 1990 (LOS/PCN/L.87, annex), the three registered pioneer investors (France, Japan and the then Soviet Union) undertook to carry out stage I of the plan of work for the exploration in accordance with paragraphs 25 to 35 of LOS/PCN/BUR/R.5. The work for stage I of the plan for exploration had to be implemented no later than the end of the second fiscal year after the completion of the review of the results of the preparatory work by the Group of Technical Experts, in accordance with paragraph 17 of LOS/PCN/BUR/R.5.

86. The cost of stage I work was estimated to be in the range of US$ 7 million to US$ 9 million, to be shared among the three pioneer investors.

87. As the report of the preparatory work was approved on 12 March 1992, work on stage I was to begin no later than the end of 1994 (LOS/PCN/BUR/INF/R.12, para. 25).

88. With respect to the annual fixed fee payable under paragraph 7 (b) of resolution II, the Understanding stated that:

> "Provided that the obligations under paragraphs 2, 7 and 8 above have been satisfactorily complied with, the obligations of the three registered pioneer investors, France, Japan and the Soviet Union, under resolution II, paragraph 7 (b), to pay US$ 1 million per annum shall upon the completion of stage I of the exploration plan be waived as of the date of their registration." (LOS/PCN/L.87, annex, para. 10).

89. At the resumed twelfth session (New York, 1-12 August 1994), the General Committee took up the issues of the annual fixed fee and the obligation of the three registered pioneer investors, France, Japan and the Russian Federation, and of their certifying States to carry out stage I of the exploration work. The General Committee considered the issues relating to the waiver of the annual fixed fee payable under annex III, article 13, paragraph 3, in the light of the conclusions of the Group of Technical Experts contained in paragraph 57 of its report (LOS/PCN/BUR/R.32) and the decision of the Preparatory Commission embodied in document LOS/PCN/L.87, annex, paragraph 12, and decided to recommend to the Authority that the annual fixed fee payable by the registered pioneer investors upon the entry into force of the Convention should be waived in a manner consistent with section 8, paragraph 2, of the annex to the Implementing Agreement (LOS/PCN/L.115/Rev.1, para. 16).

90. The General Committee also decided to waive the annual fixed fee of US$ 1 million provided for in resolution II, paragraph 7 (b), as of the date of registration, as also referred to in document LOS/PCN/L.87, annex, paragraph 10.

91. The General Committee considered the obligation of the three registered pioneer investors, IFREMER/AFERNOD, DORD and Yuzhmorgeologiya, and of their certifying States, France, Japan and the Russian Federation, to carry out stage I of the exploration work referred to in LOS/PCN/L.87, annex, paragraphs 7 and 8, and decided, without prejudice to the understanding on stage II contained in LOS/PCN/L.87, annex, paragraph 9, that the performance of this obligation should be deferred until the Legal and Technical Commission determined that substantial exploration work was being carried out by a contractor, unless the Council decided, at the request of any registered pioneer investor, to make adjustments in accordance with paragraph 40 (a) of LOS/PCN/L.87 and section 1, paragraph 6 (a) (iii), of the annex to the Implementing Agreement (LOS/PCN/L.115/Rev.1, para. 17).

F. Training

92. Resolution II, paragraph 12 (a) (ii), requires every registered pioneer investor to provide training at all levels for personnel designated by the Commission. The Special Commission for the Enterprise, Special Commission 2, was established in accordance with paragraph 8 of resolution I of the Third United Nations Conference on the Law of the Sea and was entrusted with the functions referred to in paragraph 12 of resolution II.

93. By paragraph 2 of LOS/PCN/L.87, annex, France, India, Japan and the then Soviet Union were required to provide training pursuant to paragraph 12 (a) (ii) of resolution II in conformity with the specific programme for training approved by the Preparatory Commission in accordance with the principles, policies and guidelines contained in document LOS/PCN/SCN.2/L.6/Rev.1 and LOS/PCN/SCN.2/L.7, taking into account the report contained in document LOS/PCN/BUR/R.6. It was agreed that the cost of such training would be borne by the four registered pioneer investors and would be free of cost to the Preparatory Commission. The precise number of trainees, the duration and the fields of training were to be agreed upon between the Preparatory Commission and each registered pioneer investor according to its capabilities. It was further agreed that the first group of trainees would consist of no fewer than 12 individuals.

94. By paragraphs 2 of LOS/PCN/L.102, annex, LOS/PCN/L.108, annex, and LOS/PCN/L.115/Rev.1, annex, the same obligation as had been agreed upon with respect to the first group of registered pioneer investors, with the exception of the number of individuals to be trained, which it was agreed "shall consist of no less than four individuals", applied to COMRA, IOM and the Government of the Republic of Korea respectively.

Status

95. The Training Panel approved all the training programmes of the registered pioneer investors, i.e., France, Japan, the Russian Federation, India, China and the Interoceanmetal Joint Organization, and selected candidates for the traineeships offered under those programmes. It also received progress reports on the implementation of some of those programmes.

96. In its final report to the Preparatory Commission, the Training Panel made a number of recommendations to the General Committee on those issues which would be outstanding on 16 November 1994 and thus required the consideration of the Authority. These recommendations, contained in document LOS/PCN/BUR/R.48, are reproduced below.

G. Outstanding issues (training)

Monitoring of the implementation of the training programme of the registered pioneer investors

97. Since the Panel would not be in a position to monitor, on the basis of the progress reports of the registered pioneer investors, the implementation of those training programmes which would not have been completed by the first week of August 1994, the Panel recommended that its monitoring function be continued by the Authority.

Evaluation of the training received

98. While the Panel was able to evaluate the training received by the three trainees under the training programme of Japan and the training received by one trainee under the training programme of France, it was unable to evaluate the training received by the other trainees. In this connection, the Panel

underlined the necessity for trainees to submit a report on the training they had received. Evaluations could only be carried out on the basis of both the report of the trainee on the training he or she had received and the report of the registered pioneer investor on the trainee. A satisfactory outcome of the evaluation process was the prerequisite for a recommendation to the Preparatory Commission to issue a training certificate.

99. The Panel recommends that the Authority ensure that this evaluation function is continued.

Issuance of training certificates

100. The majority of the trainees were still undergoing training when the final report of the Training Panel was submitted. The Panel was therefore not in a position to evaluate the training they had received and recommend to the Preparatory Commission the issuance of training certificates to all those who might be eligible.

101. The Training Panel therefore recommended that the Authority issue those training certificates.

Training programmes of new registered pioneer investors

102. Following the approval of the application submitted by the Government of the Republic of Korea as a pioneer investor under resolution II of the Third United Nations Conference on the Law of the Sea at the summer meeting of the Preparatory Commission in August 1994, a training programme was to have been submitted by the Republic of Korea as soon as an understanding on the fulfilment of obligations by that registered pioneer investor was adopted.

103. The Training Panel drew the attention of the Authority to the procedures it had established with respect to the review and approval of training programmes of registered pioneer investors, the elements to be included in the note verbale and the selection of candidates.

Other training programmes

104. It has already been pointed out that the Panel could not pursue the offer of training provided by the Government of Finland.

105. The Training Panel recommended that the offer of training by Finland and any other future offers by other technologically advanced States be pursued by the Authority. It also drew the attention of the Authority to the procedures established by the Panel for the training programmes of non-registered pioneer investors.

106. The Training Panel also drew the attention of the Authority to the offer of training that was made by the Intergovernmental Oceanographic Commission.

IV. FUNCTIONS OF THE SECRETARIAT OF THE INTERNATIONAL SEABED AUTHORITY

107. The Secretariat is one of the three principal organs of the International Seabed Authority, the others being the Assembly and the Council. The Secretariat is to provide services to the Assembly and Council as well as the Legal and Technical Commission and the Finance Committee. In accordance with article 160, paragraph 1, of the Convention, the Assembly has the power to establish general policies in conformity with the relevant provisions contained in Part XI of the Convention and the Implementing Agreement on any questions or matters, within the competence of the Authority. As the executive organ of the Authority and in accordance with article 162, paragraph 1, of the Convention, the Council has the power to establish, in conformity with the Convention, the Implementing Agreement and the general policies established by the Assembly, the specific policies to be pursued by the Authority on any question or matter within the competence of the Authority. The Council supervises and coordinates the implementation of the provisions of Part XI of the Convention and the Implementing Agreement.

108. To assist the Council on matters relating to the exploration for, exploitation and processing of polymetallic nodules, as well as on matters relating to oceanology, protection of the marine environment or economic or legal matters relating to ocean mining and related fields, the Legal and Technical Commission, inter alia, makes recommendations on a variety of matters to the Council for its consideration, approval or adoption. These recommendations include those relating to the approval of plans of work for activities in the Area, the protection of the marine environment, the establishment of an environmental monitoring programme for the Authority and that proceedings on behalf of the Authority be instituted before the Seabed Disputes Chamber. The Legal and Technical Commission is also required to assist the Council through the formulation of rules, regulations and procedures on prospecting, exploration and exploitation in the Area.

109. To assist the Assembly or Council on all matters having a financial and budgetary implication, the Finance Committee has to make a recommendation. The Finance Committee also has to make recommendations on, inter alia, draft financial rules, regulations and procedures of the organs of the Authority, the financial management and internal financial administration of the Authority, the proposed annual budget prepared by the Secretary-General, the financial aspects of the implementation of the programme of work of the Secretariat and the financial obligations of States Parties to the Convention and the Implementing Agreement.

110. The Secretariat provides the services that facilitate the deliberations of the representatives of States Parties in the Assembly, the Council, the Legal and Technical Commission and the Finance Committee and carries out the work programme they assign to it. The work of the Secretariat is carried out by the staff of the Authority who are appointed by the Secretary-General.

111. With regard to the functions of the Authority as identified in the Implementing Agreement and reproduced below, the broad responsibilities of the Secretariat are as follows:

(a) Producing reports and other documents containing information, analysis, historical background, research findings, policy suggestions, etc. that facilitate the deliberations and decision-making by the organs and subsidiary bodies of the Authority;

(b) Providing secretariat services to the organs (e.g., providing secretaries, assisting in planning the work of the sessions and in conducting the proceedings and in drafting reports) and other documents;

(c) Providing meeting services (interpretation, verbatim reporting and précis-writing services) to the organs, in accordance with the policies adopted by the Assembly;

(d) Providing editorial, translation and documents reproduction services for the issuance of International Seabed Authority documents in the different working languages, in accordance with the policies adopted by the Authority;

(e) Conducting studies and providing information that answer to the priority needs of States Parties;

(f) Producing publications, information bulletins and analytical work which the Assembly has decided should be issued by the Authority in the field concerned;

(g) Organizing conferences, expert group meetings, seminars and workshops on topics of interest to the Authority;

(h) Arranging for dissemination to the public of information on the Authority's activities and decisions;

(i) Providing the programme planning, financial, personnel, legal, management and general services that are essential for the rational selection of work items and allocating resources among them and for the effective, economical and efficient performance of the services and functions of the Secretariat, within the legal framework of regulations, rules and policies adopted by the Assembly.

V. PROGRAMME OF WORK OF THE SECRETARIAT IN 1997

112. In order to facilitate the processing of applications for the approval of plans of work for exploration in accordance with Part XI of the Convention and the Implementing Agreement within 36 months of the entry into force of the Convention (15 November 1997), rules and regulations on the content of the application and the procedures relating thereto, the internal procedures for the Council and the Legal and Technical Commission regarding the consideration of such applications, the scope and means of verification by the Authority on compliance by contractors and the terms of contract need to have been adopted for provisional application by the Council, pending approval by the Authority, soon enough to provide registered pioneer investors with enough time to submit their applications by the date specified above.

113. While clarity has been provided by the Implementing Agreement in respect of some of the issues raised during discussions in the Preparatory Commission on the protection and preservation of the marine environment from activities in the Area, in a number of areas, such as the incorporation of appropriate acceptance criteria for the protection of the marine environment and subsequent modification of such criteria as more information becomes available, questions remain. The monitoring programme of the Authority, the assessment of the potential environmental impacts of the proposed activities in a plan of work and the programme for oceanographic and baseline environmental studies, while all linked, require further precision through the introduction of scientific indicators.

114. With regard to other non-environmental activities to be included in the plan of work for exploration, activities during the pioneer regime have been varied and the results unknown. In order to ensure that proposed activities and expenditures by contractors reflect the intention to bring mine sites into commercial production within the 15-year time period provided for by the Implementing Agreement, some clarification must be sought from experts on the current status of activities and impediments to the timely conclusion of activities in exploration. Again, this clarification resulting in the general acceptance of certain types of activities as priority tasks would be useful for elaboration of the contents of a plan of work for exploration.

115. To achieve these results it is proposed that, in respect of the adoption and application on a provisional basis of the regulations relevant to the processing of applications for approval of plans of work for exploration by the Council at the resumed third session in 1997, taking into account the fact that the regulations must be formulated and submitted to the Council by the Legal and Technical Commission, the following schedule of activities, which dovetail the requirements of Part XI of the Convention and the Implementing Agreement, be undertaken on behalf of the organs of the Authority by the Secretariat during 1997:

(a) Protection and preservation of the marine environment. As a result of the review of the substantive functions of the Secretariat of the Authority, it became apparent that while a considerable amount of work had been undertaken in respect of the rules and regulations for the protection and preservation of the marine environment from activities in the Area, this work has not been completed and requires further review in the light of new information. In addition, the review revealed that a considerable amount of research work on this subject-matter had, and continues to take place by national bodies, research institutions, pioneer investors and potential applicants. In order to complete this aspect of the draft seabed mining code, it will be useful to come to a common understanding in a number of areas such as the establishment of acceptance criteria (a kind of basic standard for protecting the environment against harmful effects) and the linkages between, inter alia, the Authority's monitoring programme, the programme for oceanographic and baseline environmental studies and the assessment of the potential environmental impacts of proposed activities in a plan of work;

(b) Non-environmental related activities in plans of work for exploration. With regard to the non-environment parameters of the contents of a plan of work

for exploration, the review also revealed that, based on considerations such as annual periodic reports of the registered pioneer investors, it would be very useful to come to a common understanding on their achievements and to establish reasonable performance targets during the 15-year period of an approved plan of work for exploration.

116. In addition to the reports and other documents that may be requested of the Secretary-General for the third session of the Assembly in 1997, and the services to be provided the organs of the Authority during that session (secretaries, assisting in planning the work of the session and drafting reports), the Secretariat of the Authority will therefore be responsible for organizing two workshops in 1997, providing secretariat and meeting services for them (interpretation, verbatim reporting and précis-writing services) and also editorial, translation and documents reproduction services.

117. In relation to the resource assessment work to be performed by the Authority, it is suggested that resources be made available to the Secretary-General to, inter alia: (a) recruit as core technical staff, specialists in the various disciplines that are required in the exploration/exploitation phase of deep seabed mining; 28/ (b) obtain the services of a systems analyst with demonstrated expertise in mapping; and (c) acquire the necessary computer hardware and software for mapping and providing graphical representations of polymetallic nodule resource data of the various areas and data on baseline environmental conditions that the Authority obtains from the public domain or otherwise. The facility which such a core group of specialists with such a computing capability can bring the Authority is noteworthy. In addition to helping the Authority keep track and continually update resource and environmental information on the Area as they become available, such a capability will help the Authority to establish a central data repository of polymetallic nodule resources of the Area.

Notes

1/ LOS/PCN/SCN.3/1992/CRP.17, para. 6; contained in document LOS/PCN/153 (Vol. XIII) - Report of the Preparatory Commission, under paragraph 11 of resolution I of the Third United Nations Conference on the Law of the Sea, on all matters within its mandate, except as provided in paragraph 10, for presentation to the Assembly of the International Seabed Authority at its first session; dated 30 June 1995.

2/ Ibid.

3/ See LOS/PCN/153 (Vol. XII).

4/ See LOS/PCN/153 (Vol. XIII).

5/ See LOS/PCN/153 (Vol. XII).

6/ See LOS/PCN/L.99; see also LOS/PCN/153 (Vol. XII).

7/ See LOS/PCN/153 (Vol. III).

8/ Paragraph 9 of section 1 of the Annex to the Implementing Agreement.

9/ Examples include the Benthic Impact Experiment (BIE) international experiment initiated between the National Oceanographic and Atmospheric Administration (NOAA) of the United States of America and the Geology Committee of the Russian Federation. This experiment was later joined by the Metal Mining Agency of Japan and the Eastern European Consortium Interoceanmetal (IOM). It was also reported in document LOS/PCN/BUR/R.43 of 2 August 1994, "Periodic report on the Activities of Yuzhmorgeologiya in the Pioneer Area over the period 1 January 1993 to 1 August 1994", that scientific exchanges were under way with groups from the Republic of Korea, China and Western Europe. Another example is provided in document LOS/PCN/BUR/R.30 of 2 September 1993, "Periodic report on the activities of the Interoceanmetal Joint Organization (IOM) and its certifying States in the pioneer area from August 1992 to July 1993". In section IV of that report "Negotiations with other Pioneer Investors and Potential Applicants to identify possibilities and conditions for cooperation in exploring and developing specific sites in the Clarion-Clipperton Zone", it is stated: "This cooperation arises from the need to join forces in exploring and developing polymetallic nodules with a view to reducing costs while simultaneously enhancing the effectiveness of research." IOM and COMRA concluded talks in May 1993 on a cooperative effort in the development of technologies for deep seabed mining which resulted in the transfer of data and a commercial quantity of nodules from IOM to COMRA for, inter alia, assessing the level of environmental pollution from mining them.

10/ Article 133 of the Convention defines the resources of the Area as follows: "'Resources' means all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules." It will be recalled that in discussions on document LOS/PCN/SCN/WP.6, article 1, on the question of whether the mining code should apply only to polymetallic nodules or to other resources, it was decided to concentrate on polymetallic nodules at the present time in accordance with article 162 (2) (o) (ii) of the Convention (see LOS/PCN/L.16).

11/ Office of the Geographer, United States Department of States, based on Limits in the Seas.

12/ Article 150, para. (b).

13/ LOS/PCN/BUR/R.10 and Add.1.

14/ Article 162, para. 2 (o) (ii).

15/ Ibid.

16/ McKelvey, V. E., "Subsea Mineral Resources", U.S. Geological Survey Bulletin 1689-A.

17/ This work was supported by the United States National Science Foundation as part of the International Decade of Ocean Exploration.

18/ The Scripps Institution of Oceanography's World Ocean Sediment Data Bank served as the main compilation and source of chemical data for almost every researcher in the field of manganese nodule resource assessment.

19/ LOS/PCN/153 (Vol. III), document LOS/PCN/BUR/R.10.

20/ Ibid., document LOS/PCN/BUR/R.10/Add.1.

21/ Ibid., document LOS/PCN/BUR/R.32.

22/ It is believed that there has been slippage from the target date of 1996.

23/ LOS/PCN/L.114/Rev.1.

24/ LOS/PCN/153 (Vol. III), document LOS/PCN/BUR/R.32.

25/ Ibid.

26/ Ibid., LOS/PCN/BUR/R.30 and LOS/PCN/BUR/R.39.

27/ LOS/PCN/L.115/Rev.1, para. 7.

28/ The Group of Experts to the Preparatory Commission identified the following priority disciplines for seabed mining: marine geology/geophysics, oceanography, mining engineering, marine ecology and data processing (LOS/PCN/BUR/R.6).